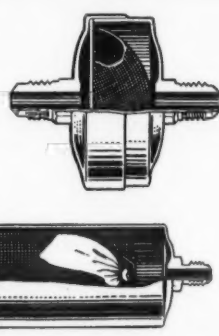
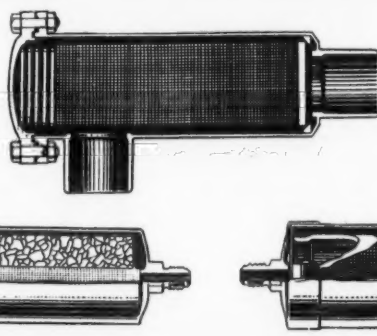
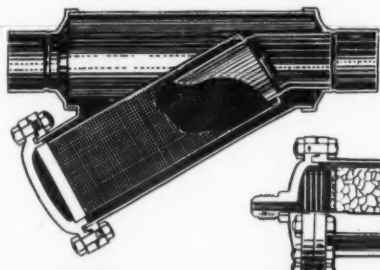
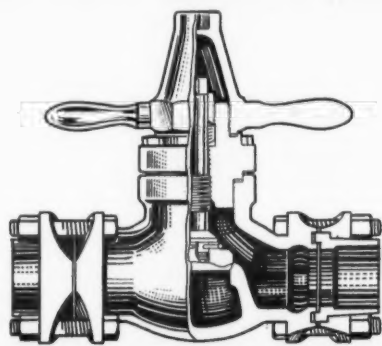


# IN THE *Spotlight*.....

## OF A GROWING INDUSTRY

# HENRY



### LARGE VALVES • STRAINERS and DRYERS

The world-wide Leadership in refrigeration and air conditioning that has been achieved by Henry Large Line Valves, Strainers and Dryers is only the natural result of following sound principles, which, collectively, result in giving the customer a "better run for his money".

As each season rolls by, one sees emphasized more and more the value of the advanced engineering and many exclusive patented features incorporated in the various Henry Products. Certainly no other line is so complete, both in size and price range. It enables manufacturers, contractors and service companies to select items best adapted to individual requirements. With such a background of universal trade approval, it is not surprising that many jobbers now stock Henry Products exclusively.

Write for New Catalogues

#### STOCKED BY THESE LEADING JOBBERS

Atlanta, Ga.....Leo S. Bosarge Co.	Minneapolis, Minn.....Refrigeration & Industrial Sup. Co.
Atlanta, Ga.....Barton D. Wood, Inc.	Minneapolis, Minn.....Vincent Brass & Copper Co.
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Beaumont, Texas.....Standard Brass & Mfg. Co.	New York, N. Y.....A. P. Miller Sup. Co., Inc.
Buffalo, N. Y.....Root, Neal & Co.	New York, N. Y.....Airo Supply Co.
Chicago, Ill.....Harry Alter Co.	New York, N. Y.....Harry Alter Co.
Chicago, Ill.....Automatic Htg. & Cooling Sup. Co.	New York, N. Y.....Paramount Elec. Sup. Co.
Chicago, Ill.....H. W. Blythe Co.	New York, N. Y.....Servicemen Supply Co.
Chicago, Ill.....Borg Warner Serv. Parts Co.	Oklahoma City, Okla.....Macklanburg Brass & Copper Co.
Chicago, Ill.....H. Channon Co.	Oklahoma City, Okla.....Midvale Supply Co.
Chicago, Ill.....Fred C. Kramer Co.	Omaha, Nebr.....Interstate Machinery & Supply Co.
Charlotte, N. C.....Henry V. Dick & Co.	Omaha, Nebr.....United Supply Co.
Cincinnati, O.....Merkel Bros. Co.	Philadelphia, Pa.....Victor Sales Corp.
Cincinnati, O.....Williams & Co., Inc.	Pittsburgh, Pa.....William M. Orr Co.
Cleveland, O.....Harry Alter Co.	Pittsburgh, Pa.....Williams & Co., Inc.
Cleveland, O.....Refrigeration Supplies Distributor of Cleveland, Inc.	Portland, Ore.....Jerry Dimick Co.
Cleveland, O.....Williams & Co., Inc.	St. Louis, Mo.....The Spangler Co., Inc.
Dallas, Tex.....Electromotive Co.	St. Louis, Mo.....Harry Alter Co.
Davenport, Ia.....Republic Electric Co.	St. Louis, Mo.....Brass & Copper Sales Co.
Dayton, O.....Allied Refrigeration Co.	St. Paul, Minn.....Thermal Service Co.
Des Moines, Ia.....Iowa Radio Corp.	St. Joseph, Mo.....Bristol Supply Co.
Detroit, Mich.....J. M. Ober, Inc.	San Antonio, Tex.....Straus-Frank Co.
Detroit, Mich., Borg Warner Service Parts Co.	San Antonio, Tex.....Westbrook Carburetor
Fort Wayne, Ind.....H. J. Schroeder Co.	San Diego, Cal.....L. B. Marsh Allied Refrig.
Fort Worth, Tex.....McKinley Refrig. Sup. Co.	South Bend, Ind.....F. H. Langenkamp Co.
Houston, Tex.....D. C. Lingo Co.	South Bend, Ind.....South Bend Supply Co.
Houston, Tex.....Standard Brass & Mfg. Co.	Springfield, Mass.....C. P. Payson Co.
Houston, Tex.....Walter Refrigeration Sup. Co.	Springfield, Ill.....United States Electric Co.
Knoxville, Tenn.....Leinart Engineering Co.	Syracuse, N. Y.....Syracuse Supply Co.
Indianapolis, Ind.....F. H. Langenkamp Co.	Syracuse, N. Y.....Syracuse Equipment Co.
Kansas City, Mo.....Forslund Pump & Machinery Co.	Toledo, O.....Heat & Power Engineering Co.
London, Ont., Canada.....Refrigeration Supplies Co., Inc.	Tulsa, Okla.....Machine Tool & Supply Co.
Long Beach, Cal.....L. B. Marsh Allied Refrigeration	Washington, D. C.....Refrigeration Supply Co.
Madison, Wis.....Gustave A. Larson Co.	Wilkes-Barre, Pa.....Radio Service Co.
Memphis, Tenn.....United Refrig. Supply Co.	Winnipeg, Man., Canada.....Winnipeg Refrigerator Parts
Milwaukee, Wis.....Chase Brass & Copper Co.	Worcester, Mass.....Standard Supply, Inc.
Milwaukee, Wis.....Refrigeration Specialty Co.	
Milwaukee, Wis.....Thermal Co., Inc.	

#### FACTORY REPRESENTATIVES

Atlanta, Ga.....C. H. Boyd	New York, N. Y.....C. W. Hudziatz
Dallas, Tex.....A. A. Ways	Philadelphia, Pa.....A. H. Holcombe, Jr.
Des Moines, Ia.....Delavan Engineering Co.	San Antonio, Texas.....E. G. Langhammer
Detroit, Mich.....F. B. Riley	San Francisco, Calif.....Pacific Scientific Co.
Los Angeles, Calif.....Pacific Scientific Co.	Seattle, Wash.....Pacific Scientific Co.

#### EXPORT SALES REPRESENTATIVES

New York, N. Y.....Melchior, Armstrong, Dessau Co.
Chicago, Ill.....Borg Warner Service Parts Co.

# HENRY VALVE CO.

1001-19 N. Spaulding Ave.  
CHICAGO • ILLINOIS



# Air Conditioning & Refrigeration News

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## Frantz Brothers In Struggle For Control Of Apex

**Walter Seeks To Have 'C. G.' Replaced As President By Clarke**

CLEVELAND—First open indication of a break between the Frantz brothers over control of Apex Electrical Mfg. Co., manufacturer of electric refrigerators and other electrical appliances, was made evident last week as Walter A. Frantz, vice president and director of the company, joined in a move to oust his brother, C. G. Frantz, from the Apex presidency.

The ouster attempt is taking the form of a proxy battle, with Mr. Walter Frantz as a member of an independent stockholders' committee which last week sent letters to Apex stockholders soliciting proxies for the annual meeting scheduled to be held March 21 for the purpose of electing a new board of directors.

This committee, composed of Mr. Walter Frantz in addition to Daniel E. Morgan, former city manager, and R. H. Clarke, former chairman of the Apex board, proposes to elect Mr. Clarke to the presidency and to offer C. G. Frantz the post of board chairman.

Claiming that the company's affairs have been mismanaged for the

## New Jersey Retailers Plan Association

NEWARK, N. J.—First steps toward organization of an appliance dealers' association in this area (including all of Essex county) for the purpose of enforcing provisions of the state's fair trade act and of preventing price cutting, especially in the household electric refrigerator trade, were taken by a group of local electrical appliance dealers when they met recently in Hotel Douglas here.

Samuel Salzman, president of Wholesale Radio Equipment Co., New York City and Newark, was principal speaker at the meeting. He told of the formation of similar groups in Brooklyn and Manhattan, and of their effect in stabilizing business practices.

## Roland Will Manage G-E Commercial Sales

CLEVELAND—Appointment of Harry M. Roland as sales manager of the commercial refrigeration section of General Electric Co. was announced last week by Harold T. Hulett, manager of the section.

Mr. Roland previously had been commercial manager for the local branch of General Electric Supply Corp. and its predecessor here, Electrical Housekeeping, Inc., since 1935.

## National Dealer Meeting Postponed To March 21

NEW YORK CITY—The national conference of radio and appliance dealer associations, originally scheduled to be held in New York City on March 7, has been postponed to March 21, it was announced last week by William L. Ingersoll, legal adviser in the movement to form a national dealers' association.

Representatives of 22 dealer associations from various parts of the country already have indicated that they will attend the conference, Mr. Ingersoll said.

## Johnson's 'Space Cooler' To Sell For \$159.50

GALESBURG, Ill.—Production of a new portable self-contained room cooler to be marketed as the "Johnson Space Cooler" by Johnson Motors, manufacturer of Briggs household refrigerators and Sea Horse outboard motors, is now under way. This product was first announced in the Jan. 5 issue of the NEWS.

Priced at \$159.50, the new unit is designed to fit on the window-sill of a room. Cooling is accomplished by circulation of outside air over a large, oversize condenser. A 1/8-hp. General Electric rubber-mounted motor drives a twin-cylinder Johnson compressor and a condenser air fan.

A small separate motor drives the recirculating fan which handles nearly 200 cu. ft. of room air per minute. Refrigerating capacity of the machine is said to be 4,000 B.t.u. per hour. Cost of operation, according to a company report, approximates 25 cents for 10 hours.

Only one model will be manufactured to introduce the unit, although additional models may be added in the future. Distribution is planned through appliance and specialty distributors.

## Even Pullman Porters Are Prospects To Newark Norge Man

NEWARK—As further proof that sales may exist even in the most unexpected places, and that every person is in reality a prospect, consider these citations of ingenuity on the part of dealers in the territory of B & O Radio, Inc.:

On the Norge-Miami Caravan recently sponsored by the distributor were several hard-hitting dealers, relaxing from their winning sales efforts. But Phil Glassman of Glassman-Norge Appliance Co., Newark, couldn't slow up the momentum he'd attained to qualify for the trip, even after he'd boarded the train.

Day after the Caravan's return, Mr. Glassman walked into B & O headquarters with an order for a Norge refrigerator, obtained from the porter on whose Pullman he'd made the return trip.

Another of B & O's star dealers is Richard Bonatz of Bonatz Electric Co., Cliffside Park, who gets in on the ground floor with a good many of his sales leads by estimating on homeowners' prospective wiring jobs.

Third example of sales ingenuity is furnished by John Dahl of Practical Equipment Co., West Englewood. He solved the problem of getting that down payment in a recent washer sale. The customer made an initial payment of \$30, all in 25-cent pieces, which Mr. Dahl had encouraged him to save, one at a time, in order to make the purchase. Balance is to be paid off in the same way.

## The Oakland Trade-In Allowance Schedule And Trade Practice Rules For Dealers

Published in the Jan. 12 issue of the NEWS was a story which told how dealers in the vicinity of Oakland, Calif., had demonstrated that cooperative activity could improve their business through stabilization of prices, trade-in allowances, and credit.

This story attracted rather wide attention, with a number of requests directed both to the NEWS and to the Oakland association for additional information about how the setup operated, particularly with respect to trade-ins.

Through the cooperation of the Appliance Dealers Protective Association of Alameda and Contra Costa counties there is published on page 4 of this issue of the NEWS their trade-in appraisal schedule for both used mechanical refrigerators and ice boxes, the Code of Ethics governing trade practices, and the Community Credit Policy Agreement.

## 70 Westchester Dealers To Sell 'Private Brand'

**Suburbanite Association Completes Deal With Heinz & Munschauer**

WHITE PLAINS, N. Y.—Setting what is believed to be a precedent in appliance merchandising, the Westchester Gas & Electric Appliance Association has obtained exclusive distribution rights in Westchester county for the line of electric refrigerators manufactured by Heinz & Munschauer, Buffalo, and will sell the line through its 70 dealer members on a "private brand" basis.

Arrangements for the distributorship were made between officials of the dealer association and Erich Loeb, eastern sales manager for Heinz & Munschauer.

An order for a carload of the refrigerators already has been placed, and a second carload will be ordered soon to provide dealers with sufficient samples. Active merchandising of the line is scheduled to begin about March 1.

The four models in the private brand line will be priced as follows: 4 cu. ft., \$89.50; 5 cu. ft., \$129.50; 6 cu. ft., \$139.50; and 8 cu. ft., \$149.50.

## Bethlehem, Pa. Dealers Find Cooperative Action Meets Trade Problems

BETHLEHEM, Pa. — Organized about a year ago to check the growing trend toward greater allowances, premiums, discounts, and other competitive problems in the merchandising of electric refrigerators, the Bethlehem Electrical Dealers Association has been pronounced a success by all members and its continuance is assured, says President George Brossman, merchandising division of Pennsylvania Power & Light Co.

Before the organization was formed, each dealer had his own method of figuring allowances for trade-ins, handling credit problems and allowances. This condition promoted competitive methods which made it difficult to earn a profit.

In outlining the accomplishments of the association during the past year, R. S. Riland, operating one of the larger appliance stores, stated that "most of the premium schemes have been discontinued; and trade-in allowances are uniform among dealers, with the exception of a few cases where a manufacturer permits his dealers to give larger allowances than recommended by the association. Of course, that is the manufacturer's own policy and problem, one that local association cannot control."

## Macy's Gets Leonard Dept. Store Franchise

NEW YORK CITY—R. H. Macy department store has been appointed exclusive department store dealership in metropolitan New York for the Leonard electric refrigerator line.

Models were displayed in Macy's major appliance department for the first time last week. Dealership arrangements were made between the department store and E. B. Latham, Leonard distributor in greater New York.

Conforming with Macy's policy, the refrigerators are priced 6% lower than regular list prices. Models in the "special" series are priced as follows: 5 cu. ft., \$154; 6 cu. ft., \$178; 7 cu. ft., \$196.

In the porcelain series, Macy's prices are \$201, for the 5-cu. ft. model; \$229, for the 6-cu. ft. model; and \$253, for the 7-cu. ft. model.

Remaining models of the store's "Supremacy" line (G-E made) are being closed out.

## Parts Makers Plan Show In Chicago Next January

**Kelvinator Dealers Get 'Production Line' Merchandising Plan**

DETROIT—Emphasis on "production-line" methods of specialty selling will characterize Kelvinator's commercial refrigeration, air-conditioning, and automatic heating program for 1938.

In a meeting unique in that not a single piece of new equipment was shown, either on the stage or in separate displays, the meat of this program was explained to more than 100 distributors, salesmen, and engineers from this section on Feb. 16 in the Book-Cadillac hotel.

The meeting was the last in a series of 11 held during the last three weeks in eastern, southern, and mid-western cities. J. A. Harlan, sales manager of Kelvinator's commercial division, was in charge.

In emphasizing the need of specialty selling in the commercial equipment field, as opposed to the merchandising practiced in the selling of household appliances, Mr. Harlan explained that Kelvinator's program for 1938 had been set up to place the primary importance on men, rather than on products.

Most, if not all, commercial equipment sales are made in the prospect's place of business, he went on; most household appliance sales are closed on the salesroom floor. This means that the commercial salesman must be better trained, since most of his products have little eye-appeal, and do not readily sell themselves to the average prospect.

In setting up its 1938 sales program on a "production-line" basis,

## Measure Compelling Mill Conditioning Defeated

COLUMBIA, S. C.—A measure which would have made it mandatory upon South Carolina textile mills to install air conditioning went to defeat in the state house of representatives last week by a vote of 53 to 40 when opponents maintained it would cost mill owners \$9,280,000 and force the industry from the state.

John D. Long of Union, author of the measure, declared it was designed for the protection of health of workers. Defending the bill in legislative debate, he declared:

"The question here is whether you value the almighty dollar above human health and happiness."

## Furniture Assn. Head Raps Long Financing Terms

MONTGOMERY, Ala.—Extended appliance finance terms which sometimes amount to "nothing down and three years to pay" were condemned by Roscoe R. Rau, executive vice president, National Retail Furniture Association, as a detrimental influence tending to force furniture stores to lengthen terms and lower down payments on other merchandise when he spoke recently before local furniture dealers.

Not satisfied with the 30-month terms which he declared his association was instrumental in securing, Mr. Rau stated that "further work is recommended."

## Association Approves Later Date To Bring Exposition Nearer Peak Season

CHICAGO—To move their showing of new lines as close as possible to the opening of the spring season, members of the Refrigeration Supplies and Parts Manufacturers Association decided at a board of directors' meeting Feb. 17 to hold their next annual meeting in Chicago during the second week of January, 1939.

Selection of this date throws the meeting 10 weeks closer to the opening of the 1939 season than the former fall meeting made possible, and at the same time gives refrigeration supply jobbers ample time to list the new products shown in their regular spring catalogs, the parts manufacturers believe.

In connection with their next annual meeting, directors of the parts manufacturers' association plan to conduct an exhibit along the lines which they have had under consideration for the past two years—one which they expect to attract not only a larger number of exhibitors, but a materially larger attendance from

## Baker Heads Universal Cooler Contract Dept.

DETROIT—L. H. D. Baker, formerly an executive member of Dallas E. Winslow, Inc., is now head of the manufacturers' equipment sales division of Universal Cooler Corp.'s domestic sales department, announces F. S. McNeal, president.

When Copeland Products, Inc. was taken over by Winslow in 1933, Mr. Baker became vice president of Copeland Refrigerator Corp., a position he held until recently. Before that, he was for 10 years vice president of the National Bank of Commerce, Detroit.

At Universal Cooler, Mr. Baker will have charge of the company's domestic contract sales department, handling sales of private label refrigerators as well as refrigeration systems sold to other manufacturers.

Orders on hand for Universal Cooler evaporators already total more than double the entire number manufactured in 1937, Mr. McNeal says.

## Automatic Products Opens New York City Office

NEW YORK CITY—Automatic Products Co., manufacturer of refrigeration and air-conditioning controls, has opened a sales office at Room 1101, 404 Fourth Ave. here. A. Brandt is the representative in charge.



### Bertha Named Southwest Manager For Sparton

HOUSTON, Tex.—J. A. Bertha has been appointed southwestern zone manager of Sparks-Withington Co., manufacturer of Sparton electric refrigerators and radios. His district includes Arkansas and Oklahoma as well as Texas, but he will make his headquarters here.

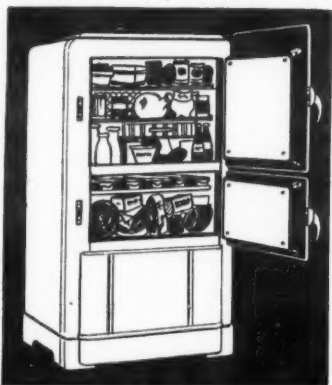
Mr. Bertha formerly was sales manager of Straus-Bodenheimer Co. here, and previous to that was employed by Kelvinator Corp.

### "There Are No Fairy Tales In This Program"

**45 Pound FROSTED STORAGE Plus Real AIR CONDITIONING Beats Competition**

Think what you could do with such unusual features as these!

- Keeps foods months without deterioration
- Saves 20% to 30% on food buying
- Improves food texture
- Out-of-season food at mid-season prices



This is a Super-Deluxe frozen storage model with air conditioning

These amazing, unbelievable claims can be verified—right to the letter.

What stronger selling points do you need to enjoy a nice volume with this line?

Prices are decidedly right! Profits are exceptionally liberal!

Here are more unusual advantages - - -

- No bother with covered dishes
- No transfer of food odors
- Reduces food shopping to once a week
- Leftovers retain natural flavor and keep longer uncovered



This is a Deluxe air conditioned model

Get set with the Continental 1938 line now!

#### SALESMEN!

This line offers experienced men an opportunity seldom seen in the selling field. Call on distributors and dealers—liberal commissions allowed. Choice territories open—so act quickly—Write or wire Now!

Dept. 215

**Continental Corporation**  
Manufacturers  
Fond du Lac Wisconsin

### Directs Standards



C. W. McMULLEN, named to succeed Harry M. Williams as manager of Frigidaire's standards division.

### Parts Men May Hold Mid-Year Meeting

(Concluded from Page 1, Column 5) the trade than has been possible in the past.

However, emphasis will continue to be laid on the educational meetings to be held during the convention week. In these, it is expected that all branches of the trade will conduct programs, as has been the custom in the past.

To bridge the 15-month gap between the third annual meeting, held last November, and the fourth annual meeting, scheduled for January of next year, parts manufacturers are considering the holding of a general membership meeting about the middle of April, on the theory that the association is rapidly reaching a point in its program which will justify holding a semi-annual as well as an annual meeting.

At a meeting Feb. 18, directors of National Refrigeration Supply Jobbers Association also voted to shift that organization's annual meeting date from November to January. This move was made because of the advantages of holding the annual meeting nearer the opening of the spring season, as well as of cooperating with other branches of the trade.

While details have not yet been worked out, it is expected that the jobbers will hold their meeting immediately before the opening of the manufacturers' convention. The Stevens hotel is considered a likely choice for convention headquarters.

In addition to making the decision as to their next annual meeting, directors of the parts manufacturers' association also confirmed President J. C. Colyer's committee appointments for the current year. These are:

Finance: H. V. Higley, chairman; M. R. Oberholzer, D. H. Daskal.

National Refrigeration Supply Jobbers relations: J. S. Forbes, chairman; E. A. Vallee, K. B. Thorndike, Malcombe Henning.

Refrigeration Service Engineers Society relations: J. H. Stubbs, chairman; John Wyllie, Jr., J. D. Colyer.

Exhibits: J. L. Shrode, chairman; J. V. Gary, F. J. Gleason.

Membership: I. J. Knudson, chairman; T. C. Davis, Elgin Parker, E. W. McGovern, G. E. Graff, H. A. Chandler.

Credit interchange: F. J. Neville, James McNeil, A. R. Robb, C. A. Griep, W. M. Dittmar.

Catalog: C. H. Benson and S. R. Robinson.

### Campbell Adds Syracuse To His New York G-E Territory

SCHENECTADY—George Campbell, manager of General Electric Co.'s local sales office, added to his duties the management of the Syracuse, N. Y. office, combining the territories of both offices, according to an announcement by H. H. Barnes, Jr., commercial vice president.

Mr. Campbell now is in charge of G-E territory in all of New York State, except the metropolitan areas of Buffalo and New York City, and in Susquehanna, Bradford, and Tioga counties, Pennsylvania. In the Syracuse office, Mr. Campbell succeeds A. J. Hornsby, who retired Dec. 31.

### Quick Depreciation After Repossession Typifies Shady Auto Financing Methods

DETROIT—To most people, the person who would pay from \$150 up for the loan of an automobile for a couple of months would rate just about on a par with the legendary "sucker" who went to New York City and made a "down payment" of \$100 on the Brooklyn bridge.

Yet this same thing, in effect, has happened to hundreds of both new and used car buyers, a survey of cases in the conciliation division of Wayne County Common Pleas Court reveals.

In one of the cases cited this week, the purchaser paid a little more than \$170 for the privilege of driving a new car about five weeks. In another, it cost the buyer \$170 to have a better used car for two months. Both buyers lost the used cars they formerly had owned, plus the payments they had made on their latest purchases; and both were sued for the balance due on their sales contracts.

Deficiency judgments obtained against both men represented the difference between the balance due on the original sale and the amount the car was sold for at public auction.

Characterized in these two cases is the quick "depreciation" which crops up in so many instalment financing sales of this type. In the first case, for example, the price of the new car was \$685, less \$100 trade-in allowance on the buyer's old automobile. A few weeks later, however, the same new car brought only \$491 at so-called public auction.

Another much-used method in used car selling is the practice of attaching a "balloon" note, covering the balance due, to a series of notes covering equal monthly payments due previously. In the case cited, the "balloon" note was for more than \$400, an amount which both dealer and finance company knew the buyer could not possibly pay. Only recourse left to the buyer in a sale of this kind is refinancing of the balance, in which case the interest payments begin all over again.

Also cited are two cases in which threatening letters and other collection means were used by credit companies in an effort to induce the buyer to pay up, for fear of losing his job. In one instance, the company even circumvented the court's orders in order to scare the purchaser into paying.

#### CASE NO. 8:

##### THREATENING LETTERS

Letters threatening to inform the debtor's employer of an account which is in arrears, and so injure his chances of keeping his position, are sent out by several credit houses in an effort to induce the debtor to pay up.

In one case, a judgment of \$50 had been sought by a credit house during the depression, but the action had been dropped by mutual consent, with agreement on a later settlement.

Three years later, when the company learned the debtor had finally obtained employment, it sent him a letter pointing out that he would lose his job if his employer learned about this debt against him.

A short time later, the company sent the man a copy of the type of letters sent to employers by credit houses before they start garnishment proceedings. Letters across the top of the form informed the debtor that a copy of this notice would be sent his employer, unless some settlement were made within five days.

This is an example of the method used by some credit firms to scare the debtor into paying whatever they claim he owes them, in his desire not to hurt his chances of keeping his job.

#### CASE NO. 9:

##### UNETHICAL PRACTICES

Defendant in this case was employed by a railroad company. During the depression, he got into debt, with the result that, when he started to get back on his feet, his creditors began pressing him for payments due them.

The company concerned in this case took a judgment against the man for \$39.27 in the summer of 1936; two other companies previously had taken similar action. Both previous cases had been taken into court, and the man was making regular

payments on these accounts when the third judgment came along.

After paying a total of \$7.50 on the judgment in question, the defendant was taken ill and had to quit work. When he returned to work, he failed to notify the court, and later the case was released and he was garnished. Then he had the case reinstated, a stay of garnishment granted, and hearing set for a later date.

Although knowing court practice, and that the man could not be garnished until after the court hearing, a representative of the plaintiff company called the paymaster of the man's company, and later the man himself, and told him that unless he paid at least \$2 direct to the company, garnishment would be sought again.

Frightened, the man went out and borrowed \$2 to make the payment, since he didn't want to lose his job.

After these facts had been brought out in court, the defendant was told to make subsequent payments direct to the court, and to disregard all such threats by the plaintiff in the future.

#### CASE NO. 10:

##### EXPENSIVE MOTORING

It cost the defendant in this case about \$170 to own a new automobile for about five weeks.

He bought a new car for a total of \$685.78, getting a trade-in allowance of \$169 on his old car. However, he owed \$69 on the car and the dealer making the sale paid this, so his allowance was \$100. He also agreed to pay \$50 down, but had only \$25 cash at the time, and told the company he would have the other \$25 in about six weeks.

According to the purchaser, the auto dealer agreed to wait for six weeks, then finance the balance through a finance company.

Some five weeks later, a day or two before his first payment was due, the man's car was taken from in front of his house. Thinking it had been stolen, he notified police; then he was informed that the car dealer had repossessed the car, despite his promise to wait. He called the finance company, which advised him to release the car to the dealer.

This he did. Then, several months later, he received a summons stating that he was being sued for a balance of \$46.35 by the finance company, his car having been sold previously at public auction for \$491, although it had been run only a comparatively short time.

#### CASE NO. 11: "BALLOON" NOTE

In this case, the defendant bought a used car for \$695, with down payment of \$100 allowed for the car he turned in on the sale, leaving a balance of \$595. Notes for the balance were signed in blank, and when the man received his book from the finance company there were 11 notes of \$35 each, and a "balloon" note of \$402.10.

Finance charges on the sale are thus seen to be \$172.

Defendant paid two notes for \$35 each, then turned the car back to the finance company. This, he thought, was the end of the deal. He had lost his car, valued at \$100, and had paid two \$35 notes. In his opinion, \$170 was a pretty good price to pay for the use of a car for two months.

Later, however, he was sued in another court, and judgment of \$170.10 and \$5 costs was taken against him. He had paid \$75 on this judgment before the welfare department referred him to conciliation court.

The court cites this case as a glaring example of a vicious method of automobile financing. Under questioning, the finance company's representative claimed the finance charge was necessary because there was a "balloon" note. Both dealer and finance company, the court says, knew it would be impossible for the purchaser to pay the final note of \$402.10 in one month.

Had he paid the 11 notes for \$35 each, the sale probably would have been refinanced, although it was admitted the high finance charge was made because of the possibility that the car would have to be repossessed.

#### CASE NO. 12: HIGH INTEREST

Examination of the plaintiff's record in this case showed that the defendant had paid \$166 on a \$218 note given for the balance due on a car. Insurance amounted to \$5.84, so the finance company was charging \$46.98 on a loan of \$166, an interest rate of approximately 12% in advance, or a true interest rate of about 60%.

The car was repossessed and sold a little more than three months after the date of the note, so that \$125 was salvaged, leaving the finance company out only \$41. Judgment asked, however, was \$107.83. Defendant in this case had no lawyer.

Under questioning by the court, the finance company admitted that there was a bonus of \$12 to the dealer, and consented to a judgment of \$87.

#### Home Drive On In Ft. Wayne

FORT WAYNE, Ind.—A drive to electrify homes is being made here by the Fort Wayne real estate board under the chairmanship of C. L. Baird.

**Candidly ANSUL SHOULD BE IN YOUR REFRIGERATION PICTURE**



SULPHUR DIOXIDE

METHYL CHLORIDE

**ANSUL CHEMICAL COMPANY**  
MARINETTE » » » » WISCONSIN



**The Crosley SHELVADOR can get the dollars that will be spent for a new refrigerator this season because it offers two big features no other refrigerator possesses.**

**The SHELVADOR — the greatest space saving story ever told!**

**BUILT-IN RADIO which enables you to capitalize on the fact that Mrs. Prospect need no longer miss her favorite radio program because she has to be in the kitchen.**

**THE CROSLEY RADIO CORPORATION, CINCINNATI**  
**POWEL CROSLEY, Jr., President**

Home of "the Nation's Station"—WLW—500,000 watts—70 on your dial



# Oakland Dealers' Trade-In Card & Trade Practice Rules

## Maximum Trade-In Allowance For Used Electric And Gas Refrigerators

Cubic Feet Capacity	3	4	5	6	7	8	9	10	11	12
1 year old	\$40.00	\$55.00	\$65.00	\$75.00	\$80.00	\$85.00	\$95.00	\$110.00	\$120.00	\$130.00
2 years old	36.00	50.00	58.00	70.00	72.50	75.00	85.00	100.00	110.00	115.00
3 years old	30.00	40.00	48.00	55.00	60.00	62.50	70.00	80.00	87.50	95.00
4 years old	22.50	32.50	38.00	45.00	48.00	50.00	55.00	65.00	70.00	75.00
5 years old	16.00	22.50	27.50	30.00	32.50	35.00	37.50	45.00	48.00	52.50
6 years old & over	10.00	13.50	15.00	17.50	20.00	21.00	22.50	25.00	27.50	30.00

Note: For full porcelain add 10% to above prices. Deduct 15% for "Economy" box.

### Community Credit Policy Agreement Governing Advertising Of Terms

In consideration of the signing of this agreement by all the members of the Retail Merchants Association who sell merchandise on credit, and by not less than 10 other leading merchants dealing primarily in the same lines of merchandise generally sold on any type of instalment plan, pianos excepted, the undersigned store hereby agrees as follows:

1. Not to use the phrase "no down payment," or any variant of it, in any advertising unless such use has been authorized for a special joint promotion by a majority vote of the parties to this agreement;

2. Not to advertise any credit period in excess of 24 months;

3. Not to advertise monthly payments on any merchandise which shall be less than one twenty-fourth of the cash price of the merchandise plus sales tax and carrying charge, at the usual rate common to this community;

4. When any down payment is mentioned in advertising the minimum amount shall be \$5 or 5% of the price, whichever is less;

5. Not to use any phrase in advertising claiming or implying "more liberal credit terms" than can be obtained elsewhere;

6. To clear any disputed or ques-

tionable operation under this agreement through the secretary of the Retail Merchants Association, and to do no doubtful advertising until such clearance is had.

We understand that the foregoing restrictions apply only to advertising, and that they do not restrict the granting of any kind of credit terms, in the store, to any individual customer which we may feel circumstances may justify.

We understand that the word "advertising" means any and all types of announcements to the public, whether newspapers, store cards, radio, or any other form of advertising except direct mail solicitation of existing accounts deemed worthy to have new purchases added to their accounts without down payment.

We understand that this agreement does not cover merchandise actually financed through the Federal Housing Administration, and that if any items are so financed the advertising shall so state.

We understand that no breach of this agreement by any other signer hereto justifies our own breach unless we have first given the secretary of the Retail Merchants Association one week's notice of our intention to break the agreement.

(Signed.)

### Newark Dealers Hold Meeting With View To Organizing For Price Maintenance

(Concluded from Page 1, Column 1)

Mr. Salzman insisted that what had been done elsewhere along this line could be done here, and that, unless some such action was taken, conditions in the refrigeration field would soon be as unhealthy as those existing in the radio trade.

Already, Mr. Salzman reminded the dealers, a similar association has been formed in Hudson county, and another is in the process of formation in Bergen county. These associations, he pointed out, coupled with an Essex county association, logically could serve as the nucleus of a north Jersey organization and ultimately, perhaps, of a state-wide body.

Morris Pinus, Aladdin Oil Burner Co., was named temporary chairman of a committee to formulate plans for organization of the group here. Named as members of an assisting committee were: Albert Wohl, Prince Range Co.; Edward Morris, Borak Furniture & Radio Co.; Jack Singer, Lightning Electric Co.; William Murphy, Radio & Television Sales Co.; Bloomfield; William A. Bord, Irvington; Albert Sieb, Sieb & Sieb, Millburn.

Besides Mr. Salzman, speakers at the meeting included: Carl F. Jenke, Wholesale Radio Equipment Co.; Herman Roessler, Roessler Furniture Co.; and Joseph Zirpoll, Lightning Electric Co.

### Trade-In Appraisal Schedule

#### Maximum Allowances For Ice Boxes On Refrigerators

(On All Refrigerators)

1. All sizes, enamel inside....\$2.50
2. All sizes, porcelain inside.... 3.50

(On Refrigerators Net Cash Price\*  
Under \$140)

	Enamel Inside	Porcelain Inside
<b>B. Side Icers</b>		
1. Wood Boxes		
50 lbs. ....	\$ 3.00	\$ 4.50
75 lbs. ....	4.00	5.00
100 lbs. ....	5.00	7.50

2. Metal Boxes		
50 lbs. ....	3.75	5.00
75 lbs. ....	5.00	6.25
100 lbs. ....	7.50	8.75

(On Refrigerators \$140 and Over)

	Enamel Inside	Porcelain Inside
<b>C. Side Icers</b>		
1. Wood Boxes		
50 lbs. ....	\$ 4.50	\$ 6.75
75 lbs. ....	6.00	7.50
100 lbs. ....	7.50	11.25

2. Metal Boxes		
50 lbs. ....	6.00	7.50
75 lbs. ....	7.50	9.50
100 lbs. ....	11.25	13.50

\*Note: Net cash price as noted above means the cash selling price of the refrigerator without sales tax or carrying charge.

1. You are personally responsible to your employer for the accuracy of the appraisals you make.

2. Your employer expects you to regard this appraisal list as a maximum allowance.

3. You are expected to follow strictly the differentials between enamel and porcelain lined boxes, and to follow strictly the differentials allowed when taking in an old ice box on refrigerators priced below \$140 as compared with those priced at \$140 and up.

4. In all instances, correct and actual allowance for an ice box should appear on your sales slip and other office records so that if the transaction is ever questioned by anyone the facts will be available.

5. The Shopping Bureau of the Appliance Dealers Protective Association is expected by its members to supervise the application of this schedule. The policy of the association is that excess allowances are a violation of the manufacturers' franchise price and of the California Fair Trade Practices Act.

6. If any prospective customer tells you that some other merchant has offered an excessive allowance, telephone or otherwise report the fact at once to the association.

7. Customer claims of excessive offers by other dealers do not justify any such counter offer by you.

### Let's Look At the Record



R. C. Cosgrove, Westinghouse household refrigeration sales manager, keeps in his office a permanent record of the industry's development—in the forms of bound volumes of Refrigeration News.

### Code Of Ethics On Trade Practices Adopted By Oakland Dealers' Association

Resolved by the board of directors of the Appliance Dealers Protective Association of Alameda and Contra Costa counties at their meeting on July 2, 1937,

That in order to establish and maintain such trade practices in the sale in this area of household appliances as shall protect the merchant against unscrupulous or destructive competition and protect the public against misleading, deceptive or fraudulent practices, we do hereby declare and establish the following fair trade practices:

1. The dealer shall sell only at prices set by the manufacturer or distributor.

2. Merchandise shall always carry a price tag so placed as to be easily accessible to the shopping public.

3. Dealers will not give any bonus, credit or premium with any appliance carrying a manufacturer's resale price, nor give any discount or kick-back under any guise whatever, except such discount has been approved by the manufacturer or distributor.

4. Trade-in allowances in excess of the schedules adopted by the Appliance Dealers Protective Association shall be deemed a violation of the manufacturer's resale price contract, and a violation of Paragraph 3, above.

5. Dealers will not transship or sell to any other dealer in this area except at the full retail price of the article, and will not sell or ship to any dealer not franchised to sell the particular appliance in question.

6. Dealers will not make any preferential arrangement with "buying clubs," cooperative organizations or groups, or employee associations, involving special discounts for group purchases, nor give wholesale discounts to employees of other firms seeking to buy through the purchasing office of such firms.

7. Contract sales shall be only such as are established by the manufacturer or distributor, and any other so-called contract sales are an unfair trade practice.

8. Advertised credit terms shall conform to the Community Credit Policy established by the association. Advertising means any form of announcement to the public.

9. Used or old model refrigerators when advertised shall be described by

giving the year model in a conspicuous place in the advertisement.

10. Dealers will not advertise any specific trade-in offer, such as "\$5.00 for your old ice box."

11. Dealers recognize the unproductive nature of the trade-in business and will not advertise claims that they give the most liberal allowance for old appliances or use in their advertising any language calculated to give the impression that a customer can get a better trade-in at their store than at other stores.

12. Dealers will not advertise any offer to accept as a trade-in on appliances any specifically named item of merchandise not regularly carried by them. For example, it is an unfair practice for a merchant to advertise "trade in your old carburetor on a new washing machine" unless the merchant is engaged in selling carburetors.

13. When comparative prices are advertised, the California Fair Trade Practices Act will be strictly observed; it provides that compared previous prices must have been the actual prevailing retail price in the area within the preceding 90 days; otherwise the date at which the compared price was the prevailing price shall be stated in the advertisement. Thus, to advertise a 1936 model as "formerly \$159.50" is a violation.

### New Booklet Describes Care Of Porcelain

MIDDLETOWN, Ohio — "Should Husbands Keep House?" is the title of a 32-page booklet just issued by the American Rolling Mill Co.

First part describes the predicament of "men without women" when they try to do housework, take care of the children, and manage the other activities of the home, and ends with the husband's determination to see that his wife gets up-to-date equipment that puts "keeping house" on a sensible basis of convenience and efficiency.

Another part of the booklet explains how research in the manufacture of specialty and steel sheets has helped to make possible so much attractive, labor-saving home equipment.

There is also a section devoted to the proper care of porcelain enamel and stainless steel in household equipment and appliances; the electric refrigerator, ranges, washing machine, laundry and bathroom equipment, cooking ware, tableware, and other products.



SAVE 20-40%

Write for details of  
Alco's new Small  
Capacity "TK"  
Thermo Valve

Alco Valve Co., Inc. - St. Louis, Mo.

**UNEQUALLED PERFORMANCE!**

Sporlan Valves have established an enviable record from coast to coast for reliability on all types of refrigeration and air conditioning applications.

That is why everyone says:  
**"YOU CAN INSTALL SPORLAN VALVES WITH CONFIDENCE"**

Join the big swing to Sporlan and take advantage of this "extra performance value" at no extra cost.

**SPORLAN VALVES**  
THERMOSTATIC EXPANSION  
SPOEHRER-LANGE CO.  
3725 COMMONWEALTH AVENUE - ST. LOUIS, MISSOURI

**The Distributor Who Sells the**  
**Copeland REFRIGERATION LINE**

IS BUILDING GOOD-WILL FOR YEARS TO COME!

It is just good business foresight to sell your customers a quality-built Copeland product. Whether you sell Copeland Household or Commercial Refrigeration, you are wisely building up a backlog of long-time customer satisfaction that will pay you dividends in continued patronage for many years.

Write for Sales Plan  
COPELAND REFRIGERATION CORPORATION  
Sidney, Ohio



## Kansas City Retailers Fight 'Wholesaling'

KANSAS CITY, Mo.—Two resolutions concerning the infringement by non-retail organizations on normal trade have been drafted by the Retail Associations Council and signed by a dozen cooperating groups to be sent to manufacturers, jobbers, and wholesalers in all lines of merchandise.

The council was set up several weeks ago specifically to work on the matter of retail sales by wholesale companies. Its resolutions will provide a starting point for an educational campaign.

Stating that the unfair practices of the non-retail outfits have caused legitimate retailers in the Greater Kansas City area considerable loss of business, the council's draft expresses the group's opposition to manufacturers and wholesalers selling to consumers, and to the practice of industrial concerns extending their own buying privileges to employees.

In a second resolution, the council states its intention of henceforward cooperating only with manufacturers, jobbers, and industrial concerns who provide retailers with sales and price protection to which they are entitled.

Directly, the council represents more than 2,000 retailers. It also represents indirectly several thousand additional retailers.

## G-E Ranges Spotlited At N. Y. Dealer Meeting

NEW YORK CITY—More than 300 distributors and dealers from New York, New Jersey, and Connecticut convened in Hotel Pennsylvania here recently to view a presentation of the 1938 lines of General Electric major appliances.

Earle Poorman, New York district appliance manager for General Electric Co., was chairman of the meeting.

An increase in electric range sales in the East during 1938 was predicted by W. T. Christy, manager of the G-E range and water heater division, in his talk to the distributors and dealers.

The electric range business is one of the fastest growing industries of the year, he declared, and General Electric has expanded factory facilities for increased range production.

Presentation of the appliances was made by the G-E stage crew which has given showings in principal cities across the country since beginning the tour on the Pacific coast.

Featured on the ranges were the new "Tel-a-Cook" lights, indicating whether or not any burner unit is operating; the five-heat "Select-a-Speed" cooking unit; the automatic oven timer; the "Tripl-Oven;" and the "Hi-Speed Calrod" enclosed-type unit.

Also shown at the meeting were the 1938 G-E refrigerators, water heaters, unit kitchens, electric sinks, dishwashers, Disposals, and home laundry equipment.

Informal round-table discussions of sales plans were held the day before the showing.

## Hare & Andrews Promoted By Westinghouse

EAST PITTSBURGH—J. K. B. Hare, manager of the Buffalo sales office of Westinghouse Electric & Mfg. Co., has been appointed central district manager, and John Andrews, Jr., former district manager, has become assistant to the vice president in charge of sales.

Both Mr. Hare and Mr. Andrews will maintain their headquarters in Pittsburgh.

Mr. Hare will have charge of sales in a tri-state territory extending to Detroit. He has been associated with Westinghouse since 1912.

## Electrical Progress Show Planned In St. Louis

ST. LOUIS—The Exhibit of Progress in Electrical Equipment, sponsored by the St. Louis Electrical Board of Trade for the benefit of individuals responsible for the purchase, installation, or maintenance of commercial electrical equipment, is scheduled to be held April 4 to 6 in the Municipal Auditorium here.

## Mid-States Engineering Is G-E Conditioning Outlet In Cincinnati

CINCINNATI—Mid-States Engineering Co. has been organized here as distributor for General Electric Co.'s air-conditioning equipment in a territory covering parts of Ohio, Kentucky, and Indiana, with central offices in the Carew tower here.

Officers of the new distributorship are: Cooper Pogue, president; Randolph F. Sellers, first vice president and treasurer; Jared A. Smith, second vice president in charge of sales; M. A. Schneider, secretary and manager of service; and Herman B. Goodwin, engineer and department manager.

Sub-distributors associated with the Mid-States company will be appointed in Dayton, Hamilton, and Middletown, Ohio, and in other principal towns in the territory.

All installations transacted by the company will be sublet to contractors, according to Mr. Pogue.

## Woodson-Bozeman Co. Gets New Quarters

MEMPHIS, Tenn.—Woodson-Bozeman, Inc., distributor of air-conditioning and ventilating equipment, has moved to new quarters at 482-484 Union.

Need for shipping facilities and additional space was given by company officials as the reason for the move. The new building is served by a spur track of the Southern railway.

The building has been completely redecorated. Showrooms are located on the main floor, with stock rooms and shops above.

Woodson-Bozeman, Inc. is distributor for Airtemp heating and air-conditioning equipment, Buffalo Forge's line of Breezeair attic fans, and Eagle-Picher rock-wool insulation. Gordon Erskine is president of the company. Other officers are: E. G. Woodson, vice president; E. D. Bozeman, treasurer; George Humphreys, secretary.

## Bill Making Air Cooling Mandatory Is Defeated By S. C. Lawmakers

(Concluded from Page 1, Column 5)

Rep. Ben E. Adams of Columbia joined with Long in defending the bill, declaring that textile employees contracted colds easily by going from hot mills into outside weather.

Opponents of the measure were loud in their condemnation. Rep. H. K. Osborne of Spartanburg said, "You can't overcome the destructive effects of legislation of this sort, because industries of other states are on the lookout for where they can locate without menaces of this sort."

"I imagine the tax-burdened industries of this state would rather take their chances with an increase in taxes than this compulsory proposal," he said, adding that partial air conditioning of South Carolina's textile mills would cost "more than the combined surplus the textile mills of this state have on hand for plant improvement."

## 1,023 Installations Made In Buffalo Last Year

BUFFALO — A total of 1,023 domestic air-conditioning installations were made in Buffalo homes during 1937, according to Walter P. Davis, secretary, Western New York Council on Air Conditioning.

Installations were handled by the following companies: Cooney Refrigerator Co.; Mollenberg-Betz Co.; General Electric Air Conditioning Co.; and Coleman-Stratton, Inc.

## Des Moines Steel Forms Air Control Division

DES MOINES, Iowa—The air-conditioning and refrigeration division of Des Moines Steel Co. has been incorporated as a \$50,000 firm to be known as Air-Conditioning Corp., Inc.

Directors of the firm, who were in charge of its activities when a division of the parent company, are J. E. Van Liew, John K. Dunn, and V. O. Marriott.

Mr. Refrigeration and Air Conditioning Dealer, do you get a headache from the installation and service which must follow every sale you make?

Are your sales commissions seriously reduced by excessive costs of installation and service?

Do improper installations and poorly rendered service lose friends and interfere with future sales?

Then, you should be interested in knowing how to make assets out of the liabilities now represented by poor or improper installation and service, and in turning these items from an expense into sources of profit.

You will admit that improperly made installations do result in dissatisfied customers, lost friends, and financial loss; for any service, poorly rendered, ultimately costs you money, and plenty of it. The unfortunate thing is that these costs must be deducted from the sales commissions which you receive, thereby reducing your profits.

But installations effectively and economically made, and service properly rendered, cause your friends to multiply, constitute the most effective kind of advertising in the world, and are a source of income to be added to your profit from sales, meaning more and bigger profits every year.

Whether your work of installation and service must be written in the red or in the black depends entirely upon the calibre of your employees who do this work for you; and, their calibre depends primarily upon their Training.

The Refrigeration & Air Conditioning Institute can now give you exactly the kind of trained men you need to turn an unprofitable installation and

service department into a money-making department. Our graduates are men whose training has been supervised from beginning to end by some of the Industry's best engineers—men who have been trained exactly as the Industry wants them trained—men who have been trained to do your work the way you want it done.

They are a new type of craftsman—not plumbers, or steam-fitters, or sheet metal workers, or electricians—but in a way a composite of all these crafts—men who know thoroughly every phase of heating, ventilating and cooling as applied to air conditioning, and also domestic and commercial refrigeration.

1000 hours of home-study, backed by two weeks (soon to be four) of intensive work in our shops in Chicago, where they have had to dismantle, rebuild, install and service all conventional air conditioning and refrigeration equipment—has made them probably the most practical and competent installation and service men ever produced for any industry.

The individual qualifications of every graduate are recorded in a form which enables you to select at a glance the man best suited for your needs. Let us help you turn an operating loss into an operating profit. Select your air conditioning and refrigeration employees from the ranks of our graduates. Our services are free to employer and graduate alike; and we shall be only too glad to serve you.

*Ray D. Smith*  
President



MORE THAN 100 MANUFACTURERS "OFFICIALLY" ENDORSE AND RECOMMEND THIS TRAINING PROGRAM

**REFRIGERATION & AIR CONDITIONING INSTITUTE**  
2130-2158 LAWRENCE AVENUE . . . CHICAGO, ILL.



## Commercial Refrigeration

### Heads Distributorship



NATHAN BARABAN

### Kansas City Firm To Handle Koch Line

KANSAS CITY—Copeland Refrigeration Co., local distributorship of which Nathan Baraban is president, has been appointed distributor in this territory for Koch commercial refrigerator cabinets.

The company has three display rooms here and in Wichita, Kan., and branch offices in Hutchinson and Topeka, Kan., and Joplin and Springfield, Mo. The company covers the entire state of Kansas and the western part of Missouri.

Since 1929, Mr. Baraban's firm has installed approximately 6,000 commercial refrigeration jobs in the southwest. Outstanding refrigeration installations include those for the Union News, St. Louis; the new Frisco station, Tulsa, Okla.; and Pickwick hotel, Memphis, Tenn. One of the company's leading air-conditioning installations is in the Santa Rita hotel, Tucson, Ariz.

### James Turvey President Of Ontario Contractors

TORONTO, Ont.—James H. Turvey, Brantford, was named president of the Ontario Electrical Contractors' Association during the organization's annual convention here.

Other officers named were: Walter Bennie, Hamilton, first vice president; Gordon Alexander, Toronto, second vice president; John O. Schatzke, Kitchener, secretary-treasurer; George Patterson, Toronto, chairman of the educational committee; R. Turner, Windsor, publicity chairman; J. Harris, Kingston, finance chairman; and W. A. Millen, Windsor, legislative chairman.

### Hutzel Heads Training For Kelvinator

DETROIT—Kelvinator's commercial division has formed a technical and training department, which will consolidate the engineering functions of the division's three sales departments, announces J. A. Harlan, commercial division manager.

Hugo Hutzel, formerly assistant sales manager of the commercial air-conditioning department, has been appointed manager of the new department. Remainder of the personnel has been recruited from the three sales departments: standard commercial, commercial air conditioning, and residential air conditioning and automatic heating.

### Fogel Co. Introduces Frozen Food Cabinet

PHILADELPHIA—"Fogelfrost," a low-temperature frozen food cabinet refrigerated by a self-contained compressor and concealed coils surrounding the entire food storage space, has been introduced by Fogel Refrigerator Co.

Food is stored in three movable galvanized metal containers, located in a lined food chamber which is equipped with three porcelain lids. Each of the movable containers is 13 inches wide, 12 inches long, and 18 inches high, and is divided into three compartments.

Below the sliding containers is an additional storage space approximately 11 inches deep. Food capacity of the Fogelfrost is 16 cu. ft.

The cabinet is equipped with a merchandising board 3 feet wide and extending 17 inches above the top of the cabinet front. This board is provided with price ticket molding and is equipped with indirect lighting.

The entire unit is finished in porcelain fused on Armco steel.

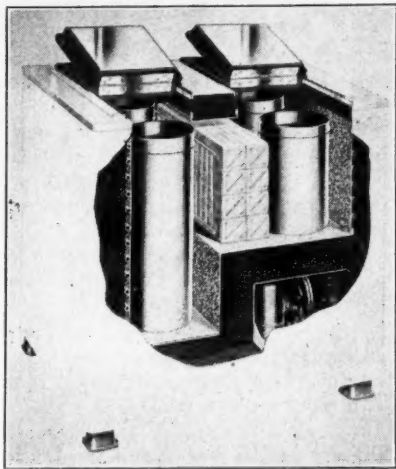
### Pound & Moore Takes Over Charlotte Firm

CHARLOTTE, N. C.—Pound & Moore Co. has taken over the commercial refrigeration business of Rawls, Hayes & Co., and will display Koch cases and other equipment formerly handled by the latter company. Ed Rawls, formerly of Rawls, Hayes & Co., has been named manager of the branch.

### Extend Refrigerating Plant

LOS ANGELES—A \$3,700 addition to the compressor unit at the plant of Charles E. Hires Co. here is being installed by the local office of York Ice Machinery Corp.

### Frigidaire Innovation



The added storage space made available by the elimination of the center dividing wall is illustrated in this interior view of the new Frigidaire utility ice cream cabinet. Even with the compressor installed in the bottom of the cabinet, there is space for two 5-gallon cans, two 2½-gallon cans, and dozens of cartons of packaged ice cream.

### Three New Models Of Ice Cream Cabinets In Frigidaire 1938 Line

DAYTON—Three new types of Frigidaire ice cream cabinets have been introduced by Frigidaire division, General Motors Sales Corp., according to an announcement by R. E. Smithson, manager of commercial sales.

The new lines include utility, portable, and remote models, designed to meet a wide variety of requirements.

Utility cabinets, suitable for installation in cafes, grocery stores, taverns, clubs, filling stations, are in five sizes, all complete with refrigerating compressors.

Smallest accommodates two 2½-gallon ice cream containers; next model, two 2½ and one 5-gallon container; third and fourth sizes, two 2½ and two 5-gallon containers; largest, two 2½ and four 5-gallon containers.

In the larger models, the short containers are raised to a convenient dipping height by a special offset design in the storage compartments.

Portable models range in size from 10 to 60-gallon capacity, with two different temperatures provided in the storage compartments of the larger units.

Remote-type line, in which the refrigerating unit is installed outside of the cabinet, includes eight single and double row models, five of which have two-temperature storage compartments.

Compressor enclosure matching the cabinet is available with each model.

Four-inch vegetable corkboard insulates the sides and bottom of each cabinet, and the wood frame is treated to resist moisture absorption.

## 'Production Line' Selling, 'Business Census' Basis of Kelvinator Commercial Program

(Concluded from Page 1, Column 4) Kelvinator has devised separate selling methods for each of its major product divisions, Mr. Harlan pointed out. Salesmen must become familiar with the technique of each, he emphasized, before they are entrusted with the responsibility of converting "raw materials" (prospects) into "finished products" (sales).

Citing the gains made by his division during the past year, Mr. Harlan pointed out that 235 franchised commercial distributors now serve the company, that a full staff of trained field men is available, and that a tested line of products is ready for distribution.

"Our plans for 1938 are predicated on the fact that American standards of living and American standards of wants remain unchanged, in spite of present conditions. People still want the good things of life, and merchants everywhere still want to supply these things at a profit. Added to this condition is the fact that the American farmer now has more money than at any time since 1929.

"So long as the merchant has a profit motive for being in business, the commercial refrigeration business will continue to expand," Mr. Harlan stated.

### TAKING THE 'CENSUS'

Kelvinator's sales plans for the year were revealed in a series of skits, demonstrating the technique of "production-line" selling.

The skits gave a graphic presentation of the "Business Census" being conducted by salesmen for Kelvinator distributors all over the country. As the first step in the "production-line" method, all classes of business are called on, to determine the type and condition of refrigeration equipment in use, and the customer's needs for new equipment.

Information gathered in this census becomes the "raw material" which is put on the "production line," where it is classified on prospect cards and made ready for use by the distributor.

Next step in the "production line," Mr. Harlan explained, is the "processing of materials," which, in his words, "is never entrusted to the unskilled workman." Like the factory workman, salesmen should be well trained in what to do and say before new and valuable "raw materials," in the form of prospects, are turned over to them.

### MUST HAVE TRAINING

After the salesman learns how to make an effective demonstration, he is permitted to call on the prospect at his place of business, make a mechanical survey, and, if possible, close the sale. One of the skits reviewed a number of mistakes made by the untrained salesman in attempting to make a commercial replacement sale.

In "production-line" selling, it was explained, the sale represents the finished product. This same selling method, it was emphasized, will apply on all products in the Kelvinator commercial line.

Air-conditioning products for 1938 were enumerated by H. M. McGaughey, manager of the commercial air-conditioning department. The line will include five self-contained room coolers, air and water-cooled 1 ton and ½-ton units, and a 1½-ton water-cooled job.

Floor-type conditioning units employing chilled water as a cooling medium will be offered in capacities of 1 and 1½ tons.

Eight suspended-type air conditioners, ranging in capacity from ¾ to 10 tons, will be sold, and nine "central-station" conditioners, in capacities of from 10 to 40 tons, will complete the line.

### 33 FREON UNITS

Thirty-three Freon compressors, ranging in capacity from ¼ to 50 hp., will match the conditioning units. New to the Kelvinator line are three heavy Freon compressors, in 30, 40, and 50-ton capacities. Evaporative condensers in capacities equal to those of the compressors are available for use in territories where water cost is a problem.

A 3-hp. self-contained store unit, having a capacity of 3.2 tons, and "priced to sell," completes the Kelvinator air-conditioning line.

Sales policies in the air-conditioning division of the company will be built around "pre-engineered" methods of equipment selection, Mr. McGaughey said. This method makes it possible to sell and install Kelvinator air-conditioning equipment in communities which will not support a large engineering organization, he explained.

Plans for the automatic heating and residential air-conditioning business of the company for 1938 were discussed by E. L. Sylvester, sales manager of residential air conditioning and automatic heating. Citing a market totaling \$200,000,000 per year for this type of equipment, Mr. Sylvester estimated that 6,000,000 American homes were apparent prospects for automatic heating.

### RESIDENTIAL PLAN

No drastic changes are contemplated in the residential air-conditioning equipment line for this year. Emphasis will be laid on placing a "selling-man" at work on a "selling plan," Mr. Sylvester continued. A complete training course in automatic heating and residential air conditioning will be offered through the Kelvinator divisional offices.

Standard commercial and liquid cooling products were discussed by W. E. Watson, assistant to Mr. Harlan. No changes will be made in the line this year, the only new product announced being a combination beverage cooler and 7-cu. ft. dry storage refrigerator, which will retail at approximately \$300. The unit is equipped with a stainless steel work-board over the dry-storage compartment, and a stainless steel sliding top.

As a final indication of Kelvinator's attitude toward the commercial refrigeration business, Mr. Harlan announced a sales contest which will run the major portion of this year.

1 2 3 4 5 6 7 8 9 10 11 12 13 14 15

No. 12 of a Series of Curtis Advanced Engineering Features.

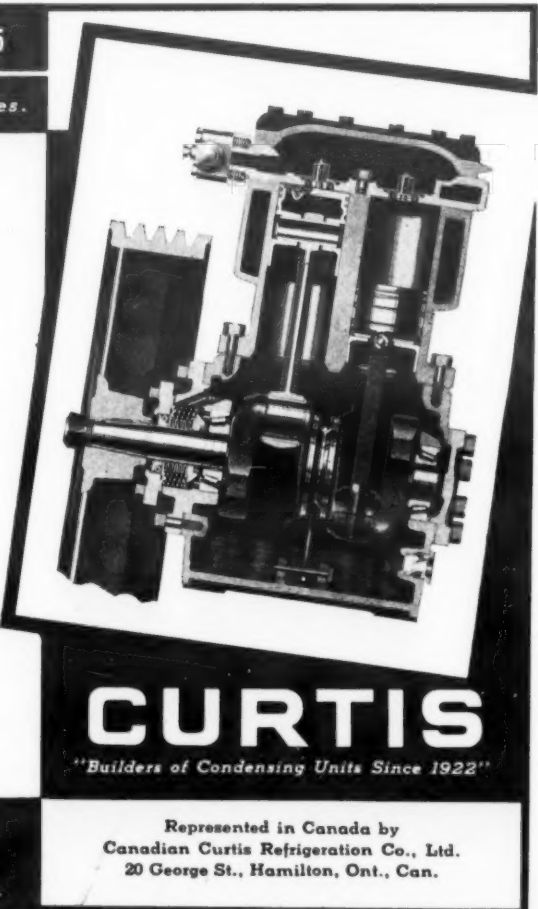
### The CURTIS Flywheel Assures Double Protection and Quiet, Smooth Operation

● Flywheels on Curtis compressors are of heavy type, fully and accurately balanced, fitted to the crankshaft on a tapered hub sturdily keyed to the shaft and securely held in place by a nut and positive lock washer. This assures double protection as well as positive drive. Multiple "V" belt drives result in quiet, smooth operation of Curtis units.

Precision engineering and advanced design are responsible for the outstanding performance record of every Curtis compressor and condensing unit. It will pay you to investigate the many advantages offered by the complete Curtis line; models for every requirement, from 1-6 to 30 H.P.

Write to Curtis today for full information.

**CURTIS REFRIGERATING MACHINE CO.**  
Division of Curtis Manufacturing Co.  
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"Builders of Condensing Units Since 1922"

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For Greater Cooler Profits in '38



Trouble-Proof Service  
Absolute Sanitation  
Greater Reliability

● Progressive dealers everywhere will want to find out all about the new improved Halsey Taylor Electric Water Coolers. They are the crowning achievement of an organization that for years has won an enviable reputation for quality drinking water fixtures. Many extra advantages make Halsey Taylor Coolers easier to sell, more profitable, and far more satisfactory and dependable in service. Write for liberal proposition.

**Halsey Taylor**  
electric water coolers  
The Halsey W. Taylor Co.  
Warren, Ohio



## Commercial Refrigeration

### 'Par' Units Extended To 20-hp. Tandem

DEFIANCE, Ohio — Commercial refrigeration and air-conditioning compressors manufactured under the trade name "Par" by Modern Equipment Corp. have been extended to 20-hp. tandem units, according to W. C. Allen, vice president in charge of sales.

There are 28 models in the Par line for 1938, which are available in three optional speeds and two optional refrigerants. Capacities range from 1/4 to 20 tons of refrigeration. Close-coupled models, in fractional horsepower sizes, are built for ice cream cabinets, self-contained food cases, and reach-in refrigerators.

Cleanable tube condensing units from 7 1/2 to 20 hp. are available for air-conditioning service. The 15 and 20-hp. high sides are equipped with dual compressors and motors.

### 18 Commercial Franchises Granted By Kelvinator

DETROIT—Commercial refrigeration franchises have been granted to 18 new Kelvinator distributors, according to J. A. Harlan, manager of Kelvinator's commercial division. New commercial distributors are:

Frank Coal Co., Nashville, Tenn.; Electric Refrigerator Sales Co., Alexandria, La.; Barry Hardware Co., Clovis, N. M.; The Bridges-Wilson Corp., Boston; J. P. Bell Co., Lynchburg, Va.; Electric Appliance Sales Co., Paducah, Ky.

Underwood & Wellman, Salinas, Calif.; Mickel-Hopkins Co., Greensboro, N. C.; M. J. Blons & Co., Chicago; John H. Ewing & Son Distributing Co., Burlington, Iowa.

J. H. Nilles Home Appliances, Aurora, Ill.; Refrigeration Products Corp., Los Angeles; Koldtemp, Inc., Jamaica, N. Y.; West Texas Appliance Co., Midland, Tex.

Binghamton Refrigeration Engineering, Binghamton, N. Y.; Brown Bros. & Co., Caribou, Me.; Charles A. Merritt & Son, San Jose, Calif.; Kelso & Fitton Co., Long Beach.

### Kold-Hold Orders Up; New Products Ready

LANSING, Mich. — Orders for Kold-Hold equipment received so far this year are considerably ahead of those reported for any similar period in the company's history, reports James R. Tranter, president and general manager of the company.

General offices of the company, formerly located in the Olds Tower, have been moved to the plant, for a closer consolidation of the company's activities, Mr. Tranter states. A number of refinements in Kold-Hold design and construction also have been inaugurated, he declares. Description of the new units, and the new tests to which they are being subjected, is contained in a booklet recently issued by the company.

Several new products have been developed and added to the line, Mr. Tranter reports.

### Develin-Drew Co. Will Represent Mills Line

FRESNO, Calif. — Develin-Drew Co. has been appointed representative in the San Joaquin valley for commercial refrigeration equipment manufactured by Mills Novelty Co. Ray Polley, Mills' commercial sales manager, and M. P. Fugle recently completed arrangements for the deal.

### New Quick-Freeze Unit At Mobile, Ala. Does Big Shrimp Business

MOBILE, Ala.—The Alabama State Docks Commission's new \$15,000 quick-freeze unit already has handled 1,000,000 lbs. of Gulf Coast shrimp and fish—frozen as hard as bricks at zero temperature.

The plant was put in operation Dec. 18, and Manager A. A. Richards is looking forward to increased business during the spring months from vegetable crops grown in Mobile, Baldwin, Escambia, and adjoining counties.

The unit will handle practically any kind of sea food, vegetables, or fruit.

Freezing is so fast—45 minutes for large fish, 15 minutes for shrimp, less for fruits—that tissues are not torn down as would be the case in an ordinary freezing process. Each article comes out of the unit frozen individually, not in a mass.

The unit is equipped to handle a maximum of 2,000 lbs. an hour. Processed fish are stored in sharp-freeze units of the docks commission's \$880,000 storage plant.

As demand requires, the supplies will be withdrawn and rushed to market in refrigerator cars. Stores will display them in refrigerated drawers and cabinets.

Shrimp and crabmeat have been shipped without special handling to points as far away as Montgomery, Birmingham, and Atlanta.

### 2-Speed Motors Used On Michigan Dairy Job

BAY CITY, Mich.—Two large dairy and ice cream plant installations have recently been completed by the organization of George F. Dent, Kelvinator distributor in the "Thumb district" of Michigan.

Equipment has been installed for the Parsons Dairy Co. and the Englehart Dairy Co., both of Bay City. The systems control temperatures in ante-rooms where milk is stored, and hold the temperature of the hardening rooms to 18° below zero.

Both jobs have direct expansion milk aerators, and steel refrigerant lines in the hardening rooms are built in a manner permitting their use of shelving. Two-speed motors are employed on the condensing units to secure better control of temperature and a better balance.

### 'Wayside Storage Station' For Tuna Called Success

PUNTARENAS, Costa Rica—Success of the local American refrigeration plant, from which tuna fish are transferred in freighters to the packing plants in San Pedro and Long Beach, Calif., has led to a proposal for the establishment of similar storage plants in Hawaii and possibly the South Seas.

Fishing boats are able to unload a catch at the refrigeration plant here and return to the adjacent fishing grounds for additional catches, instead of making the long haul to California with each load.

Ships contacting the plant serve Van Camp Sea Food Co., Italian Food Products Co., and California Packing Corp.

**For Information on Motors**  
FOR ALL TYPES OF  
**Air Conditioning and**  
**Refrigeration Equipment**  
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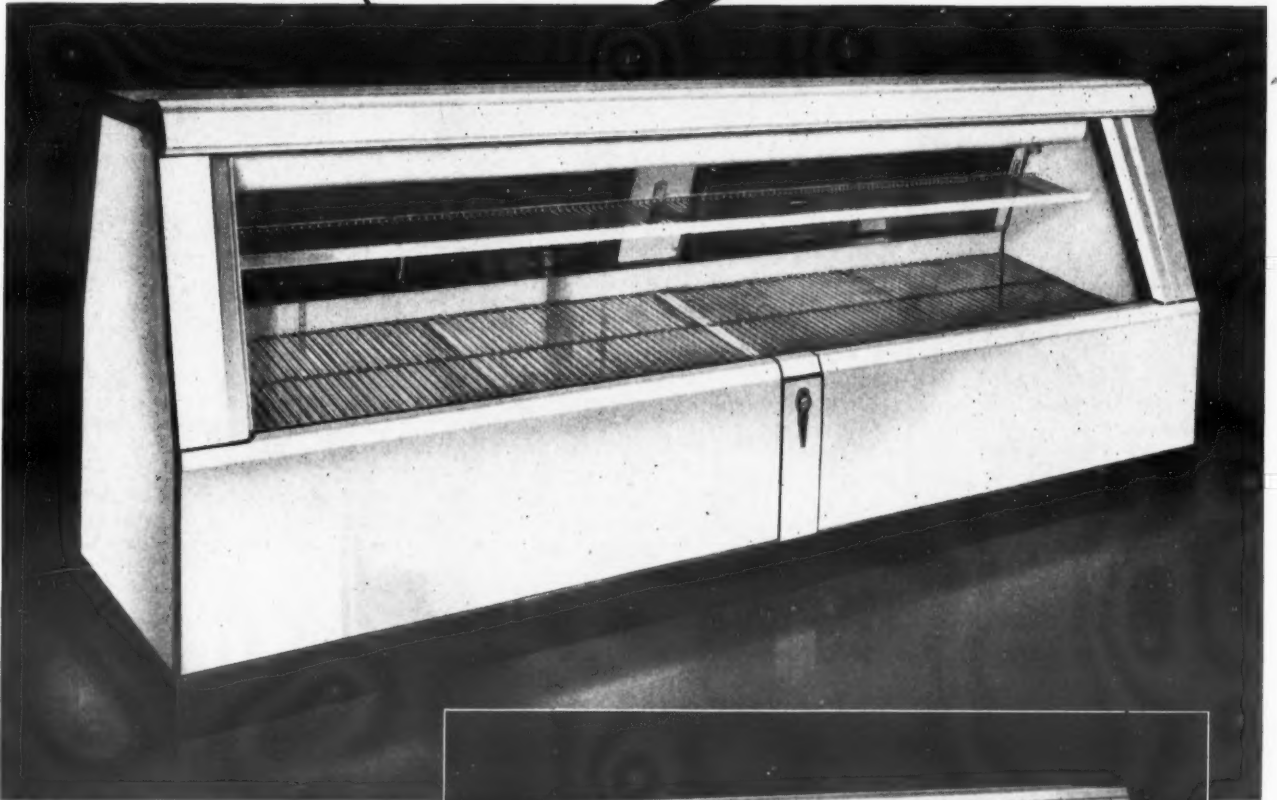


that new  
**SEEGER**  
series

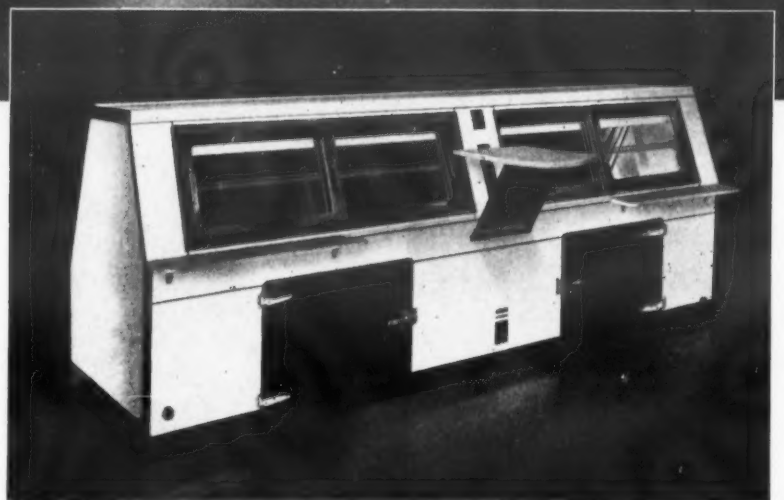
**21**

DOUBLE  
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Sell Seeger All-Porcelain Display Cases—they stay sold because they're designed right and built right for a lifetime of real service.



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## Profitable Sales Ideas

### Helping Its Dealers With Sales Schools And A 'Mother Division' Business Service Has Paid Out For Ontario Electric Corp.

BUFFALO—By offering service, cooperation, and friendly assistance to its dealers whenever and however possible, Ontario Electric Corp., Crosley distributor in 14 counties of western New York, has built itself from a comparatively small business concern into a million-dollar-a-year distributorship in less than 10 years.

"Maintenance of regular and friendly contacts with our dealers has created a feeling of trust which has stimulated sales more than all the advertising in the world could have done," says Ernest Kronson, founder and president.

As an indication that he knows whereof he speaks, Mr. Kronson points to the fact that, despite the loss of 30 selling days due to strikes, fires, or floods, his company's sales for 1937 were 35% above those of the previous year. And this percentage of increase represents well over a quarter of a million dollars in actual cash, he declares.

#### DEALERS 'FED UP'

In relating the history of his company's dealer-cooperation policy, Mr. Kronson recalls that it all started several years ago when he first became "fed up" with the way in which most distributors loaded their hapless dealers with all sorts of stock, and then left them to shift for themselves.

"I decided then and there," says Mr. Kronson, "that this was not the way in which a distributorship should be operated, so I determined to try out my theory that every dealer should be given a square deal."

"It was a fine theory, but it just didn't work. Sales volume just wasn't there. Dealers, I found, needed not only a fair break but a little extra assistance as well."

"As a result of this observation, I opened a school for dealers and their salesmen. I had my sales experts give these men tips on selling practices; and, what is more important, give them a thorough grounding in the products which I was distributing."

"I even went so far as to hold a school for dealers whose business was a bit shaky. I showed them ways and means whereby they could improve their business and start to make money."

"Since that time, I have continued to hold these schools on the average of once a month, and believe me, they have certainly proved themselves to be worth the time."

"By drilling the dealers and their

salesmen on the merits and features of our line of products we indirectly increase the sales of these products, for when a customer arrives in a dealer's store, the salesmen naturally turn to our products first for the simple reason that they know more about these products, thanks to our training, than they do about the other lines on the floor."

"In addition to these schools, I call regular meetings of the dealers and their sales representatives whenever Crosley places some new product on the market or makes a change in an old one. My staff carefully explains to them the details of every change or every new of every change or new product."

"Also important in our scheme of friendly cooperation are the various business services which we render our dealers. For instance, we retain the best lawyers in the city in order to afford our dealers with expert legal advice, we have special accountants who do nothing but assist some dealers in keeping their books straight, we teach other dealers the proper way to finance sales and how to work with finance companies, and we show still others how to plan their floor displays, window displays, or stock layouts."

#### 'MOTHER DIVISION'

"All of these services are available to our dealers without charge, and this business service department, or 'mother division' as we call it, has spelled the difference between success and failure for many dealers."

In addition to its policy of friendly service, the Ontario Electric Corp., (Rochester division of which is known as Ontario Distributing Corp.) promotes its business through newspaper advertising, a radio program, and unique sales letters sent to dealers.

The radio program, broadcast weekly over a local station, consists of a dramatized crime case in which each listener acts as the judge and renders the verdict as he sees fit. The person submitting the correct verdict each week wins a Crosley radio.

Illustrative of the type of promotional letters sent out by this distributorship is one which had printed in bold red type across one corner of the envelope the terse query: "Got a Match?" Attached to the enclosed letter was a cellophane-wrapped cigarette. The letter began, "Dear Mr. Dealer: Have a cigarette with me, while we talk about ways to easier sales."

### Salesmen Get All 'Dressed Up' In Sales Contest

HARTFORD, Conn.—Lesson No. 1 in "How to be a Well-Dressed Salesman" was offered by Orkil Electric Co., General Electric distributor in this territory, when it awarded its salesmen credits toward various articles of wearing apparel in return for washer and ironer sales during a recent campaign on G-E home laundry equipment.

The "dress-up" idea was conceived by Margaret McCarthy, sales promotion manager of the distributorship. The contest lasted for eight weeks, and the 19 awards offered varied from garters and mufflers to suits and overcoats.

By the time the contest ended, 30 of Orkil's retail salesmen had replenished their wardrobes to greater or less degree. Chief Beau Brummel was Al Pritchard, of the P. Rosenberg store, New Haven, Conn. Next best dressed at contest's end was R. Santoro, of Blair & Brodrib, New Haven.

A parallel contest was conducted for the benefit of Orkil's wholesale salesmen and dealer principals, with expense-paid Bermuda cruises offered.

### Mrs. Pruner Hunts Up Prospects; Mr. Pruner Does the Closing

CULVER CITY, Calif.—Just as Jack Spratt and his wife, through their joint efforts, "licked the platter clean," Mr. and Mrs. J. C. Pruner, by combining their talents, have "cleaned up" on Electrolux refrigerator sales in this locality.

The Pruners, both of whom work for Home Appliance Co., Electrolux dealer here, form a top-notch sales combination. Mrs. Pruner has a fine record for finding prospects, but she somehow doesn't feel up to following a sale through to the signed order. Her husband has all the finesse and confidence necessary to get the name on the dotted line.

Mrs. Pruner spends every Monday, Tuesday, and Wednesday morning canvassing from house to house. Then, while she spends the afternoon in the store, Mr. Pruner visits the prospects whom his wife has previously contacted.

Supplied with leads furnished by his wife and by satisfied users, Mr. Pruner can concentrate on closing the sales. As a result, he qualified for the Quintuplet club three times last year, each time exceeding by one or two units the minimum requirement of five sales in one day.

To hesitant prospects, Mr. Pruner suggests that they check up with some of their neighbors who have refrigerators. He obtains names and addresses of these owners from a list of all Electrolux users on the lines of Southern Counties Gas Co.

### Altering Credit Requirements By Season Is Dallas Dealer's Remedy

DALLAS, Tex.—"Tighten up on credit and trade-in requirements if you deal with the low salaried customer," says Harry G. Secker, owner of the Knox Street Hardware Store and operator of two appliance stores here.

Although the business done by the two stores amounted to a satisfactory volume, compared with competitive dealerships, Mr. Secker felt that the operation did not show sufficient profit; credit management, he declared, was the firm's weak spot.

Taking direct charge of the credit department, he began paying closer attention to the rating of the customers sold.

"We tightened credit requirements in several ways, and raised sales commissions, so that while we had a smaller volume of business, it was sounder business, and our salesmen were better satisfied," he says. "Since the first of 1937, we have had to repossess but two boxes."

One of the most fruitful changes made in business practice under the new credit regime was that of varying the leeway given customers in making payments according to the season of the year.

"We had been given a man 60 to 90 days to make payments," Mr. Secker related, "but as the spring selling season closed and summer sales began, we insisted on payment every 30 days."

"Our theory is that if a man will not make his payments regularly in the summer, when the need for refrigeration is greatest, then he will not be inclined to make his payments with any regularity later on. By insisting on the 30-day limit through the summer, we get our books cleaned up, ready for new business in the fall."

By setting a certain allowance on trade-ins, and insisting that the salesmen not go beyond this limit, sales in refrigerators have been improved, Mr. Secker said.

"As a rule, we try to hold the trade-in allowance at 20%, which will give us, on the basis of 30% gross, a 10% cash profit."

Most sales are made now in the low income brackets, Mr. Secker believes. "Many of the people we are selling now make from \$60 to \$125 per month. We are not getting many above the \$125 figure, the way we used to," he says.

"These buyers are living on a close margin, and unless trade-in allowances are held down and summer vacation plans eliminated, it is easy to get into trouble before fall."

"Another feature of our changed policy has been refusal to sell boxes on a 'no-payment' basis. We no longer allow a refrigerator to leave the store on a \$5 down payment, but insist on \$10 or \$20—and we're getting it. The people who insisted that they could not make the down payment are, in many cases, the ones most able to pay."

One concession Mr. Secker does make to his down-payment rule is to allow the customer to make the down payment at the rate of \$5 or \$10 per week. This gives him two weeks in which to pay the full amount.

Mr. Secker feels that, in dealing with the low income class, the merchant must realize that his customer is a "week-by-week" wage earner, and all payment plans must be predicated upon this fact. By keeping this point in mind, and approaching the credit problem in the light of the individual customer, Mr. Secker has found that a profitable business can be established with this type of buyer.

Two stores in Dallas are managed by Mr. Secker separate from his hardware store: the Knox Street Appliance Store, adjacent to his suburban hardware store, and the Modern Appliance Shop, in a downtown location.

### Capital Department Store Salesmen Learn About Selling Small Appliances; Best 'Students' Get Prizes

WASHINGTON, D. C.—Electric Institute of Washington, in cooperation with five leading local department stores, recently conducted an eight-week training school, with one meeting each week, for the purpose of educating employees of these stores in more effective means of merchandising small electrical appliances such as mixers, roasters, waffle irons, toasters, and percolators.

Each department store group was instructed as a unit, and at a time and place suitable to the majority of those taking the course. Each group averaged about 15 in number.

First meeting of each group was held at the Institute's quarters on succeeding evenings. The group watched its dinner prepared through the use of only small appliances. Following the dinner, the first lesson was given. It dealt mainly with the background and functions of the Institute and with some of the fundamental principles of electricity.

Various means were utilized by the stores to assure attendance of their employees. Some served light breakfasts from small appliances, some

awarded prizes for constant attendance, and some simply insisted that their sales force attend. In most cases, 45-minute group meetings were held prior to the store opening.

At the conclusion of each lesson, a set of questions was handed to each "student."

Answers to these questions were handed in the following week, and prizes of \$3 and \$2 were awarded the persons giving the best answers.

A copyrighted, 122-page sales manual was given to all those taking the course. At the conclusion of the course, a mass meeting was held which was attended by approximately 150 sales people from all branches of the industry. At this meeting, an oral quiz was conducted, \$50 in prizes being awarded to those answering the most questions correctly. Speaker at this meeting was Elmer Wheeler, Tested Selling Sentences, Inc., New York City.

This same course now is being offered by the Institute to employees of furniture and hardware stores and electrical specialty shops.

### 4 Day Cooking School Draws 3,000 Columbus Women

COLUMBUS, Ohio—A four-day free cooking school was staged in the RKO Palace theater here recently by the Columbus Dispatch, each of the sessions being attended by approximately 3,000 women.

Mrs. Bertha M. Harris, nationally-known authority on food and household subjects, conducted the school, which was the 10th annual demonstration sponsored by the Dispatch.

A 1938 Servel Electrolux refrigerator, provided by the local gas company, was used by Mrs. Harris during the demonstration.

As a grand prize for the audience, a Bendix home laundry was awarded to the holder of the "lucky" ticket at the final session of the school Thursday morning.

The Bendix unit was presented by the M & M Co., distributor for the new washing machine.

### Manchester League Opens 12-Week Cooking School

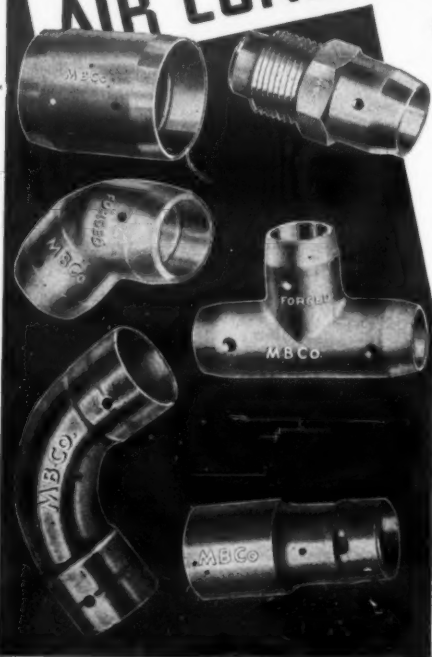
MANCHESTER, N. H.—The Manchester Electric Appliance League opened another cooking school series on Feb. 15 in the Kurrent Kitchen of the Public Service Co. of New Hampshire.

The school will continue 12 weeks, during which a number of well known home economists will conduct demonstrations in electric cooking. Kathryn Holy of the home service department of the Public Service Co. opened the series demonstrating the subject "New Fashioned Ways with Old Fashioned Flavors."

The following Manchester appliance dealers are sponsoring the school: E. M. Chase Co., A. L. Franks & Co., Granite State Electric Supply Co., Robert A. Horace, J. J. Moreau & Son, Public Service Co. of New Hampshire, G. F. Lawrence & Son, and John B. Varick Co.

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## Distributor-Dealer Doings

### Joseph Doyle President Of Electric Institute

WASHINGTON, D. C.—Joseph Doyle, manager of Columbia Wholesale, Inc., local affiliate of Joseph M. Zamoiski Co., Baltimore Norge distributor, was elected president of Electric Institute of Washington, D. C. at the association's fourth annual membership meeting held recently at the Hamilton hotel.

Mr. Doyle succeeds A. F. E. Horne of the local branch of General Electric Supply Corp.

More than 400 persons attended the dinner-meeting. Principal speaker was Charles Eaton, U. S. Representative from New Jersey.

Membership of Electric Institute of Washington is composed of wholesalers and retailers of electrical merchandise.

### Connelly Outlines Plans On New Lines To Dealers

SEATTLE—F. B. Connelly Co., appliance distributor here and in Portland, Ore., has been appointed distributor of Emerson radios in western Washington and all of Oregon. Charles Weiser, Pacific coast manager for Emerson, recently outlined his company's plans before members of the Connelly organization.

More than 500 Norge dealers and salespeople of Washington and Oregon attended conventions recently sponsored by the Connelly company in Seattle and Portland. Sales sessions lasted throughout a full day, luncheon and a banquet being provided by the distributorship at both conventions. All Norge products, including household appliances, commercial equipment, and heating devices, were displayed and discussed.

Norge factory representatives at these conventions were Lee O. Cox, western district manager; E. W. Robb, advertising representative; William Hostetler, Cole Cawthorne, and Harold Winningham.

W. R. McCurdy, Connelly's general sales manager, spoke of developments for the coming season; Frank Porter, secretary of the Connelly firm, discussed current economic conditions; H. J. Buckley, district manager, Commercial Credit Co., outlined the details of his company's services.

### Mobile Dealer Sees Three Factors For Better Sales

MOBILE, Ala.—Electric refrigerator sales of Kittrell-Milling Motor Co. for 1937 were 25% above those of 1936, according to Ed Vulevick, manager of the company's electrical department. And Mr. Vulevick reports that prospects for 1938 are even brighter.

"Contrary to the belief of some," Mr. Vulevick argued, "the saturation point in domestic refrigeration sales is nowhere near reached. We base our optimism for the coming year on three principal factors.

"First, the electric refrigerator is a necessity, and the new home building program will increase the trend toward this type of food preservation. Second, newly married couples usually desire to start their house-keeping with modern appliances. Third, more old homes and farm homes are being wired for electricity each year. We expect 1938 to be our best refrigerator sales year."

### Philip Farnsworth Opens Dover, N. J. Store

DOVER, N. J.—Dover Appliance Co. has been opened here as a General Electric dealership by Philip Farnsworth, former sales manager of the now defunct Dover Motor Co., which handled G-E products as well as automobiles.

Dover Motor Co. went out of business Jan. 10 when its building was leased to a grocery firm. Floyd M. Diehl, erstwhile president of the defunct firm, had contemplated continuing in the appliance business in partnership with Mr. Farnsworth, but finally decided to retire instead.

### Ft. Wayne Association's Committees For 1938 Named By Wegner

FORT WAYNE, Ind.—Ralph Wegner, president of the Electrical Appliance Dealers' Association of Fort Wayne, has appointed the following committees to serve during the ensuing year:

Board of governors—Joseph W. Dye, chairman; Herman Kaiser, C. H. Lines, Charles Watterson, and Mrs. Ralph Wegner. Appliance exhibit—Roy Bridges, chairman; Otto Adams, co-chairman; Fred Harber, H. H. Parrett, and Martin Raake. Membership—W. H. Thompson, chairman; J. S. Johnson, Joseph Stucky, and H. J. Schroeder. Publicity and advertising—Otto Adams, chairman; Earl Wunder, Arno Spiegel, and Al Levy. Program and entertainment—C. H. Lines, chairman; Charles O. Koons, J. W. Dye, and E. C. Goette.

Plans for a public appliance exhibition are being considered.

### New Wall-Whalen Store Is Air Conditioned

RICHMOND, Va.—Wall-Whalen Co., Inc., has opened a new headquarters store in a two-story building at 9 W. Grace St. constructed to the firm's specifications. Open house at the new store, which is completely air conditioned, was held Feb. 10 and 11.

Russell M. Whalen, president of the firm, was recently elected president of the Richmond Electrical Radio and Refrigerator Club. The firm handles Norge appliances, RCA-Victor radios, and the Fogel and Seeger lines of commercial display cases and refrigeration.

The staff includes: R. A. Frayser, general business manager; Kyle B. Walker, general sales manager; W. B. Rudd, store manager; Geo. B. Carter, commercial manager; A. H. Blunt, credit department; R. E. Jenkins, service department manager; Harry DeCampe, commercial service manager; V. C. Carter and A. M. Lauterback, service department; V. N. Powers, electrician; M. E. Carrier, warehouse manager; Mrs. Beulah Hash, secretary; Dallas Raynor, head bookkeeper; R. I. Hargrove, sales supervisor, and L. P. Tiller, J. T. DeBrito, F. R. Butler, R. J. Lumpkin, W. W. Shanes, D. C. Hunt, J. W. Simmons, E. E. Ebersole, J. W. Moore, F. H. Faulkner, P. G. Mebane, R. A. Moody, F. S. Parsons, L. E. Elmore, and N. F. Lyon, members of the sales staff.

### Norge Educational Plan Given To Spinks Outlets

MEMPHIS, Tenn.—Wayne Spinks Co., distributor, was host to 300 Norge dealers from Memphis and the mid-south at a one-day sales conference held recently in Hotel Peabody.

William B. Burruss, special sales consultant for Norge division, Borg-Warner Corp., was principal speaker. Other company representatives attending the meeting were E. R. Lovegren, director of the educational division; E. I. Jones, southwest district manager; G. B. Turner and H. E. Hope, of Dallas; and E. R. Bridge, of the washer division, Detroit.

Norge's 1938 lines of appliances were presented during the session.

Harold W. Lewman of the distributorship was master of ceremonies at the banquet which followed the business meeting, and Wayne Spinks gave a welcoming address.

### New Jersey Dealers Have New Stores

NEWARK—Two dealers of B. & O. Radio, Inc., Norge distributor in this territory, have moved to new locations.

H. A. Barter, Norge dealer in Belleville, N. J., has moved to 142 Washington Ave., and Glassman-Norge Appliance Co., Newark dealer, has moved to larger and more modern quarters at Bloomfield and Clifton avenues.

### Steel City Appliance Distributes Crosley

BIRMINGHAM, Ala.—New Crosley distributor for Alabama is the Steel City Appliance Co. of Birmingham. Robert F. Hall is president and active manager of the company, and Herndon Thomas is vice president in charge of sales.

Mr. Thomas has been active in the distribution of Crosley products for many years, formerly being in charge of the appliance department of Beck & Gregg Co., Atlanta.

### Foster Co. Opens Store In Jackson, Mich.

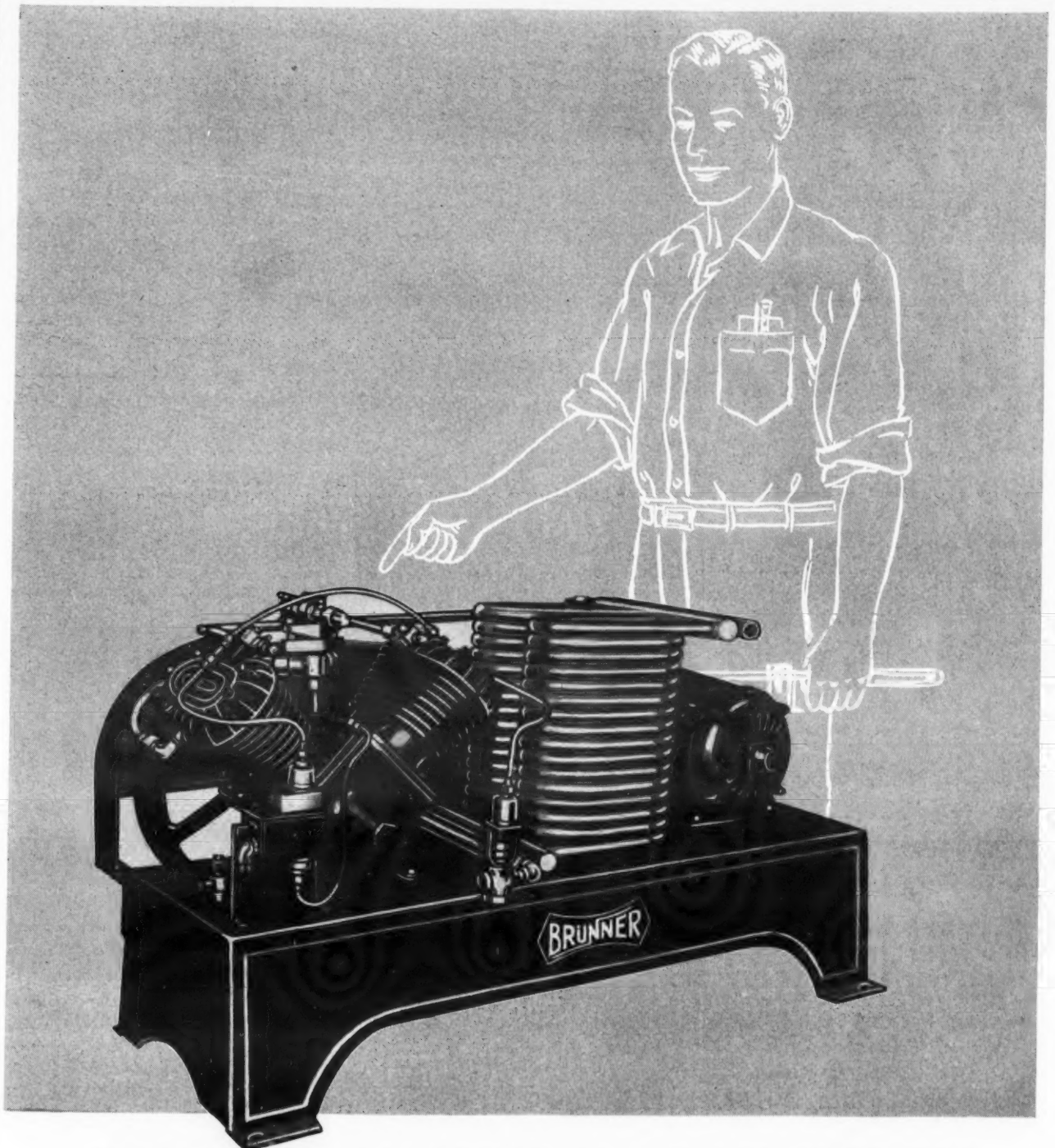
JACKSON, Mich.—The E. J. Foster Co. here has opened a modern appliance store, using two complete floors at 212 S. Mechanic St. to display Leonard electric refrigerators, Hotpoint electric ranges, and Maytag washers and ironers. A. G. Van Syoc is manager of the store, and members of the staff are Ray Stanley, Ernest Filber, R. B. Richardson, Jack Dalton, H. E. Nichols, Ruth Shaw, and Ellen McElhenie.

### Cross Wholesale Corp. Handles Gibsons

BUFFALO—Cross Wholesale Corp. has been appointed distributor in Buffalo, western New York, and northern Pennsylvania for Gibson electric refrigeration equipment.

Lloyd W. Cross is president of the newly organized distributorship, and Charles Liske is secretary and treasurer.

The Cross organization recently held open house for its dealers in this territory.



## CONTROL VALVES CONVENIENTLY "BUNCHED" FOR QUICK, EASY ADJUSTMENT

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IT'S **BRUNNER**  
FOR *economical* SERVICE



## AIR CONDITIONING & REFRIGERATION NEWS

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## The Public and Air Conditioning

EDMUND KUHLMAN, president, The Greater Detroit Home Builders Association, says: "Homes in and around Detroit are being built today for 20% less than the average cost during the years of 1926 to 1929, inclusive. In addition, the old method of financing as compared with present F.H.A. mortgages added at least another 20%. Then the people are getting a better constructed house today with such added features as:

1. Better foundations.
2. Waterproofed foundations.
3. Basement play or recreation rooms in nearly all homes.
4. More and better insulation.
5. Much better window and door frames, all weather stripped.
6. Air conditioning, although this varies widely as to type, efficiency, and desirability.
7. Better kitchen equipment.
8. Better and cheaper lighting."

The above comment on air conditioning suggests that something is sadly wrong with either (1) air-conditioning equipment, (2) present methods of selling it, or (3) the public's understanding of air conditioning.

If the trouble is due to the public's understanding of air conditioning, then it means that the industry is doing a poor job of educating the public. That, in turn, may indicate that manufacturers are doing a poor job of educating their dealers, or that they are picking the wrong kind of dealers.

We are inclined to believe that a good deal of the trouble is due to the theory (which a number of manufacturers apparently adopted) that steamfitters, plumbers, and sheet metal workers could quickly learn specialty selling and refrigeration as well.

We still think that the answer to the problem of dealers will be found in sales-minded refrigeration men.

## Time Payment Abuses

SENTIMENT in favor of some sort of regulations on installment selling seems to be growing in strength. And the specialty selling industries will have only themselves to blame if this, too, falls under the iron heel of government control.

Time payments in themselves constitute a great and worthy contribution to the national economy. It's hard to argue with the assertion that the automobile industry could never have achieved its present status without them. And the same thought holds true for refrigeration and most home appliances.

### Self-Regulation Would Help

Yet, the abuses of installment selling are causing the whole "ball of wax" to come under the critical scrutiny of public opinion. Self-regulation is undoubtedly indicated in a situation of this sort, for the Reformers down in Washington don't need much excuse these days to pass a new set of rules—especially if they will affect business, and make it more difficult and complicated for business men to earn a living.

In recent issues the NEWS has been reporting a series of credit selling malpractices, as brought to light by a study of cases on record in the conciliation division of Wayne County's Common Pleas Court. The state of Michigan intends to do something about these reprehensible trade practices, and it is high time, too. However, legitimate dealers should be on guard to see that reform measures do not go so far as to hamper honest business and honest installment selling.

### The Memory May Linger

As one reads these cases of poor, ignorant working men being chiseled and double-chiseled, one feels both pity and indignation. But to readers of the NEWS, there should be a third emotion aroused by the reading of these instances of credit abuses—fear. If the electrical appliance industry will permit its more shady representatives to engage in malpractices of this nature, not only installment selling but the appliance industry and the appliances themselves are liable to be sprayed with a stench which may cling for a long time.

It's easy to become aroused over the chiseling dealer who cuts prices, because he is taking business away from you. The abuser of credit selling, however, is much more likely to be left undisturbed by legitimate dealers, for the people with whom he deals aren't usually prospects which the better types of dealers have tabbed. In the long run, however, the crook who sells to people he knows can't pay may do the industry more lasting harm than the man who shades a price to cover up his inefficiency as a salesman.

### Don't Pass Up Sales

It should not be deemed that we are suggesting that appliance salesmen should fail to cultivate responsible prospects in the low-income brackets. On the contrary, installment selling is a means toward a better standard of living and way of life for such people.

It is true that the discipline of meeting payments enables families of small income to spend their money to greater advantage and better purpose than they probably would otherwise. Were it not for the payments on the car or the radio or the refrigerator or the range, a few extra dollars each week would in all likelihood be diverted toward the saloons, the numbers racket, cheap gewgaws, and shoddy entertainment. Such is the way of man—and woman.

### It's Not All Bad

Installment selling and mass production have enabled people of small incomes to own quality goods, worthwhile articles which help them lead fuller, more respectable, cleaner, and more healthy lives. Installment selling and mass production—with specialty selling and advertising—have lifted America's standard of living to the highest point enjoyed by any large body of people in the world's history.

We are, however, living in an Age of Reform. Sharp practices of the past few decades have aroused vague, general suspicions of all business—suspicions on which the New Dealers have been riding to town. And it is a time when legitimate business must see to it that not only the vast majority of its constituents must be above reproach, but that the lunatic fringe of chiselers must be held in check, also.

### Cooperation As a Key

Getting credit abuses under control is a crusade in which every member of the specialty appliance industry can and should enlist. Manufacturers, distributors, and field men can see to it that their own dealer ranks include only high-grade business men. Dealers, by means of both formal and informal cooperative organizations, can do much toward policing their own ranks. Finance companies, of course, have the most at stake in this matter, and should be the most circumspect in watching out for crooked dealing.

Properly controlled, installment selling is the basis not only for mass production of specialty articles, but for a better way of life for "the masses." But it must be properly controlled, or the whole works may come under a cloud from which much rain can fall.

## LETTERS

### How Other Dealers

#### Meet Trade-In Problems

Ottawa Radio and Appliance  
Dealers Association  
Ottawa, Ont.

Editor:

Our Association is attempting to draw up a maximum trade-in schedule on refrigerators and would appreciate any information you could give us on schedules that you may have on file.

W. J. TATE, Secretary-Treasurer.  
Answer: See below.

Halbach-Schroeder Co.  
Quincy, Ill.

Editor:

A certain group of electric refrigerator dealers in our town are joining together in attempting to establish some form of organization to control the trade-in allowances for used refrigerators.

We thought perhaps you might help us in some way by giving us the experience of others in a similar town of our size with a population of 40,000 and with 15 dealers.

We thought perhaps we could establish a Blue Book listing all refrigera-

tors and the amount to be allowed by the dealers and we all agree to quote the same price that will be established in this book.

If you can give us any information it will certainly be appreciated. Upon receipt of your answer to this letter plans will go forward.

J. W. NEAL,  
Halbach-Schroeder Company.

Answer: All that we know about the control of trade-in allowances and trade-in schedules has been published in AIR CONDITIONING & REFRIGERATION NEWS.

The story published on page 4 of this issue, telling about the work done by the Dealers Protective Association of Alameda County, California, offers an outline of what seems to be an effective way of controlling prices on trade-ins through cooperative action. In the Jan. 19 issue, on page 1, is a story about the plans for issuing a blue book. The Federal Refrigerator Corp., which plans to issue this book, may be addressed at 57 East 25th St., New York City.

Some of the articles published on this subject in issues of the NEWS are as follows:

March 10, page 9—"Some Flint Dealers Say Consumers' Power Trade-In Allowances Work Hardship; Others Defend Utility's Policies."

March 17, page 1—"Trade Practices Code Set Up by Denver Dealers."

April 7, page 1—"Refrigeration Association of N. Y. Protests Gas Co. Allowances on Trade-Ins."

April 14, page 1—"California Plan On Trade-Ins Based On Arbitrator's Bid for Used Boxes."

May 12, page 1—"10% On Trade-Ins Is Maximum Under New Price Agreement."

May 12, page 1—"El Paso Code Covers Trade-Ins, Discounts."

May 12, page 6—"Local Norge Dealers Set Up Standard Scale of Trade-In Values."

May 19, page 1—"Utica Association Sets Trade-In Maximums."

June 2, page 1—"Denver Retail Code In Successful Operation After Revision to Meet Special Needs."

June 16, page 2—"Trilling & Montague Sets Price Schedule & Fixes Trade-In Allowances."

Sept. 1, page 1—"Trade-Ins Raise Questions Under N. Y. Law."

Sept. 8, page 1—"Uniform Price Fixing Contract Drafted for Philadelphia Dealers."

Sept. 15, page 1—"Trade-In Limits Fixed by Topeka Electric League."

Sept. 22, page 1—"Warren-Norge Alters Trade-In Clause."

Oct. 20, page 1—"New York Dealers Plan 'Blue Book' for Radio Trades."

Oct. 20, page 5—"Bad Trade-In Practices Traced to Dealers' Inexperience and Manufacturers' Desire for Added Outlets at Any Cost."

Dec. 15, page 12—"Brooklyn Association Drafts Schedules of Radio Trade-Ins."

### Tyler Is Source Of Vapor Heads

Tyler Fixture Corp.  
Niles, Mich.

Feb. 11, 1938

Editor:

Under your question column in the Feb. 9 issue, we notice an inquiry (No. 3170) from a manufacturer in Ontario, Canada, requesting information as to the manufacturers of vapor heads.

We are the originators of vapor heads for use on fruit and vegetable displays, and we would appreciate your filing this information so on future inquiries you can furnish our name as the manufacturer also.

SAM D. VANDER WEG,  
Sales Promotion Manager.

### Explaining The News Library Of Manuals

Frigidaire Division  
General Motors Corp.  
Dayton, Ohio, U.S.A.

Gentlemen:

We are attempting to maintain a library of the material published by the Business News Publishing Co. However, we do not wish to maintain volumes of material which has previously been published in the regular issues of AIR CONDITIONING & REFRIGERATION NEWS.

This is in view of the fact that the material which is published regularly in the NEWS would be of a much earlier nature than that which has been published in volume form.

A broadside has come to my attention advertising various volumes published by you. I would like to question the contents of a number of these volumes as to whether or not the material contained therein is a consolidation and duplication of material previously published in the regular issues of the NEWS.

The question particularly relates to a series of books called "Master Service Manuals" written by K. M. Newcum in regard to both commercial and household refrigeration and a series of manuals called "Air Condi-

tioning Made Easy" written by F. O. Jordan.

Would you please inform me whether or not the above-mentioned volumes are a consolidation of material previously published, or if it is an expansion of this material.

I do not believe, however, that the material in the volumes "How to Select and Install Air Conditioning Systems" by T. H. Mabley, "Refrigeration Engineers Manual" by S. L. Potts, and "Refrigeration and Air Conditioning Directory" published May, 1937, has been previously published in the regular issues of AIR CONDITIONING & REFRIGERATION NEWS. Would you please inform me if my belief in the above respect is correct?

D. C. STALEY,  
Patent Dept.

Answer: (1) All of the Master Service Manuals on Household Refrigeration (except minor revisions) have been published in the weekly issues of AIR CONDITIONING & REFRIGERATION NEWS.

(2) The subject matter contained in Manuals No. C-1 and C-2 of the Commercial Service Manual series was published in the weekly issues of the NEWS. The first two chapters of Manual C-3 were published in the NEWS. The balance was not published in the NEWS and is not scheduled for publication therein.

A portion of the text of Mr. Jordan's manuals entitled, "Air Conditioning Made Easy," was published in the NEWS. However, there has been considerable revision and expansion of the text material, hence the weekly issues will not cover the entire text.

"How to Select and Install Air Conditioning Systems" written by T. H. Mabley, which constitutes a series of 25 articles on air conditioning was originally published serially in the weekly issues of the NEWS beginning Jan. 6, 1937 and ending July 28, 1937.

The Refrigeration Engineers Manual by S. L. Potts was also published serially in the weekly issues of the NEWS.

The Refrigeration & Air Conditioning Directory was not published in May, 1937, but the first part of this Directory known as the Buyer's Guide, No. D-1, was published in January, 1938, in the form of a 252-page book. A part of the contents of this Directory was published as supplements to the NEWS. However, the material was completely revised and expanded before being published in book form.

### New Air Conditioning Surveys Booklet

Fairbanks, Morse & Co.  
900 South Wabash Ave., Chicago  
Editor

Last year you published a booklet entitled Air Conditioning Surveys. I do not recall but I presume they were published about this time last year. If you have published air conditioning sales for 1937, we would be very please to have a copy of them.

GEORGE F. WASSON, Manager,  
Air-Conditioning Dept.

Answer: We are planning to bring the air-conditioning surveys up to date to include the additional data which has been published in the NEWS since the 84-page book was issued last year, but we have not announced a definite date for this job.

### D-1 Is 'Best Yet'—But Who Makes Oil Cans?

Refrigeration Supplies Distributor  
202-46 22nd St., South  
Birmingham, Ala.  
Feb. 12, 1938

Editor:

For a matter of our information, after looking over the new D-1 buyer's guide which we think is the best yet, can you tell us where we can get some flexible spout oil cans.

The service men for the past year have asked and asked for them and as yet we have been unable to locate a source of supply.

If you have this information, we would appreciate it very much.

ROBERT GENNETT  
Answer: Try the Egle Mfg. Co.,  
Wellsburg, W. Va.

### A New Jobber

Iowa Radio Corp.  
1212 Grand Ave.  
Des Moines, Iowa

Sirs:

Enclosed find our check in the amount of \$4.00, to cover one year's subscription to REFRIGERATION NEWS.

We are adding a refrigeration parts department to our business which we hope to have complete by February 1. Having had 15 years' experience wholesaling radio parts in Iowa, we feel that we are in position to effectively distribute refrigeration parts in this territory. To head the department we have added to our force a man experienced in the refrigeration field.

We are looking forward to receiving REFRIGERATION NEWS regularly.

L. M. TESDELL, President.



## Major Appliances

### 'Madam, Be Seated' Theme Of Promotion Campaign On Ironers By Washington, D. C. Dealers

WASHINGTON, D. C.—"Madam, Be Seated," is the theme of a concerted promotion on electric ironers which members of the Electric Institute of Washington are conducting from Feb. 7 to March 19. The theme is featured in a colorful window poster showing a sketch of a chair and suggesting that the housewife see the dealer and try out an ironer for herself.

Leads are secured through an offer of a \$3 automatic sprayer for sprinkling clothes to each person who sends in the name of a prospect who buys an ironer. Return postcards for entering names of prospects are sent out in 75,000 Potomac

Electric Power Co. monthly bill enclosures.

The returned leads are distributed among dealers. Display space is provided for distributors in a six-week exhibit featuring ironers, washers, and vacuum cleaners in the Institute's first floor display room.

The Institute is inaugurating a policy in the ironer campaign which will be emphasized this year—sales stimulation through the offer of incentives to salesmen in the form of prizes and bonuses. This program is the outcome of a recent electrical equipment survey in homes which showed that the market exists for greater sales effort.

### Department Stores Give Bendix Demonstrations In Columbus, Ohio

COLUMBUS, Ohio—Public demonstrations of the new Bendix home laundry are being presented here daily by two of the leading department stores, Lazarus and Morehouse-Martens.

At Morehouse-Martens, demonstrations are given at 10 a. m., 12 noon, 2 p. m., and 4 p. m. The complete operation of the Bendix unit from start to finish is shown with an actual basket of clothes.

A similar demonstration is staged by the Lazarus store, which began with regularly scheduled showings each day, but abandoned the plan when public interest warranted more demonstrations.

Each department store announced the showings through newspaper advertisements.

### Fred Johnston Is Head Of Radio Engineering For Stewart-Warner

CHICAGO — Fred E. Johnston, chief engineer of Crosley Radio Corp. for the past eight years, has left that position to become chief radio engineer of Stewart-Warner Corp., according to J. E. Otis, Jr., Stewart-Warner president.

Mr. Johnston first entered the field of radio in 1909. During the war he served as an officer in the signal corps of the military intelligence service, and while in France studied at the Sorbonne in Paris.

Upon his return to the United States, Mr. Johnston became receiving engineer for Radio Corp. of America. He later was placed in charge of that company's engineering work at Riverhead, L. I. When RCA constructed the high-powered trans-oceanic communication station for the Polish government, Mr. Johnston was named assistant engineer in charge of construction.

Mr. Johnston also has been radio development engineer with Hazeltine Corp. and chief engineer for Amrad.

### A. G. Chaffer To Direct Home Laundry Sales Of G-E Division

BRIDGEPORT, Conn.—A. G. Chaffer, appliance sales manager for General Electric Co. in the Pittsburgh district for the past four years, has been appointed sales manager for G-E home laundry equipment, with headquarters here, according to J. M. Wicht, manager of the home laundry equipment division.

Mr. Chaffer joined General Electric in 1922 as home laundry specialist in the Cleveland territory, later being transferred to Bridgeport. In 1933 he was appointed district appliance sales manager in Pittsburgh.

Previous to his connection with the company, he had been associated with a utility company and had spent six years with G-E Supply Corp. in New Jersey and Illinois, as well as three years with American Ironing Machine Co.

### Hotpoint Water Heater Specialists Herald 'Early' Campaigns

CHICAGO—To review the Hotpoint electric water heater from a sales, advertising, engineering, and product standpoint, 17 Hotpoint water heater specialists from all parts of the country recently attended a three-day conference in the "little theater" of Edison General Electric Appliance Co., Inc.

In opening the conference, August Jaeger, sales manager of the Hotpoint water heater division, said that most utilities in the country have launched electric water heater sales campaigns earlier this year than ever before, in order to take advantage of the increased public interest in electric hot water service.

Other speakers on the program were R. W. Turnbull, vice president and general sales manager of Hotpoint; Charles Moreland and Gene Vinet, of the Hotpoint sales division; J. C. Sharp, chief engineer; Mrs. Mary Lowell Schwin, manager of the home economics division; Clinton Brown, sales campaign manager, and L. J. Sholty, vice president of Maxon, Inc., Hotpoint agency.

### Fluid Heat Introduces High-Capacity Heater

BALTIMORE—A new domestic water heater having a hold-over storage of 40 gallons and a maximum hourly capacity of 80 gallons has been added to the line of heating products manufactured by Fluid Heat division, Anchor Post Fence Co.

Shown for the first time at the recent heating and ventilating show in New York City, the new unit used a special flange-mounted Fluid Heat pressure burner firing at 7½ g.p.h. with No. 3 fuel oil.

The tank is heavily galvanized and tested at 300 lbs. hydrostatic pressure in accordance with A.S.M.E. standards. A 2-inch layer of insulation is employed.

The heater occupies 24 x 38 inches of floor space and stands 57 inches high. Its cylindrical jacket is finished in lettuce green with black trim.

### Perkins Heads Division For Miller Co.

MERIDEN, Conn.—O. R. Perkins has been appointed manager of the gas and oil division of the Miller Co. here.

Mr. Perkins has spent several years in sales development work with chain store organizations, having been manager of Montgomery-Ward's stove department for two years, and of Sears, Roebuck's stove department for four years. While with Montgomery-Ward, he helped to organize that company's electric refrigerator department.

### Masterson Heads Sales For Phillipsburg Firm

PHILLIPSBURG, N. J.—Joseph Masterson has been appointed sales manager of Twin City Appliance Co., General Electric dealer here. Philip H. Harrison & Co., Newark, is G-E distributor in this territory.

### Latest Electromaster Is All-Feature Model

DETROIT—A new Electromaster range, known as Model 80, has been announced by Electromaster, Inc.

Standard Model 80 is equipped with two Electromaster "Vita-Misers" and two Chromalox units, of 1,200 and 2,000 watts respectively, although other surface combinations are available.

The range occupies a floor space of 40 x 24 inches; height of the cooking table is 36 inches. Finish is all porcelain enamel.

Features of the new range include: new style oven liner with safety locking racks; oven light; storage drawer; convenience outlet; opening on back plate for lamp and clock assembly, and on range back for installation of clock receptacle; bi-rotary, three-heat switches; full-floating, bi-metal thermostat combined with oven switch; bakelite handles on oven drawer and utility drawer; standard porcelain enamel broiler and rack.

### Murray Of Philco To Talk On Television

DETROIT—Albert F. Murray, engineer in charge of television, Philco Radio & Television Corp., will speak on "Television—Its Progress and Problems" at 8 p. m. Wednesday, March 2, in the main auditorium of Masonic Temple.

Joint sponsors of the event are the Engineering Society of Detroit and the Detroit Section of American Institute of Electrical Engineers.



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*instantaneously*

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**TEMPRITE PRODUCTS CORP. Detroit, Mich.**



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## Engineering

### Cooling System To Protect Dam Shaft

CHATTANOOGA, Tenn.—Preparations for a refrigerating system to freeze the ground surrounding the huge test shaft at the Gilbertsville (Tenn.) dam site to prevent seepage of water into the shaft are practically complete, Tennessee Valley Authorities have announced.

The shaft, 20 feet in diameter, must be sunk 95 feet to bedrock so that the foundation rock for the contemplated dam may be thoroughly examined. Made of steel sheet piling, the shaft began filling with silt from ground water when it was driven to within 14 feet of bedrock.

The refrigeration system, similar to those used throughout Europe to protect deep coal mine shafts from filling with water, will consist of 30 pipes placed vertically in the ground at intervals around the outside of the shaft. Cold brine, chilled by an ammonia cooling system, will be circulated through these pipes, freezing the sub-soil solid for a radius of several yards.

### Pheoll Issues Catalog

CHICAGO—Pheoll Mfg. Co., manufacturers of screws, bolts, and nuts, has issued a catalog for 1938 listing and illustrating the numerous varieties of its standard threaded products.

### Improper Tooling For Plastics Is Cited To Tool Engineers

TOLEDO, Ohio—Tooling and methods of manufacturing in connection with the preparation of plastics for use in industry are lagging far behind chemical developments, according to Dr. J. A. Murray, consulting engineer of the Plaskin Co., Toledo. Speaking before a meeting of the Toledo chapter of the American Society of Tool Engineers, Dr. Murray said tooling had made little progress since the early days of plastics, and was a big factor in the present high cost of plastic castings.

### G-E Makes Movie Of Erie Plant Operation

ERIE, Pa.—A motion picture, "They Know How," showing in detail the manufacture and assembly of General Electric refrigerators, was presented for employees of the local General Electric Co. plant here recently at a family theater party.

Most of the film was photographed in the Erie plant. Two other G-E films were on the program. "Moving the Millions Electrically" shows the application of generators, motors, and controls made in Erie for trolley cars and buses. "From Now On" features Irvin S. Cobb with a Hollywood cast, and emphasizes household appliances.

### G-E 1937 Safety Record Is Best

SCHENECTADY—Safety records of General Electric Co. for 1937 show that the frequency of accidents in G-E plants was lower last year than at any previous time in the company's history.

The number of lost time accidents per million hours worked was 6.49 last year, compared with 6.60 for 1936, the best previous year.

The severity rate, or number of days lost per thousand hours worked, shrank to .524 from the previous low (set in 1935) of .567.

During December, 22 of 33 plants owned by or associated with General Electric Co. were without a single accident. Several plants had perfect records for even more than one month.

### Sherwin-Williams Has New Cabinet Enamels

NEW YORK CITY—Four new refrigerator finishing enamels, two of the "Opex" type and two of the "Kem" type, have been announced by Sherwin-Williams Co.

The two Opex (lacquer type) enamels are identical in quality, but vary in shade, one approximating that of a new refrigerator, the other that of an old or bleached refrigerator. By mixing both shades, any intermediate shade may be produced.

The Kem enamels correspond to the Opex types in shade.

Distribution of the new enamels is being handled by Sherwin-Williams O-K automotive jobbers, and refinishing service is being done by shops and by electrical appliance distributors equipped to handle this work.

## Measurement Of Surface Irregularities Explained To Detroit Engineers

DETROIT—Development and operation of the "Profilometer," an instrument capable of measuring surface irregularities to one-millionth part of an inch, was explained to members of the Detroit section of American Society of Refrigerating Engineers at their meeting Feb. 15 in the offices of AIR CONDITIONING & REFRIGERATION NEWS.

Speaker was Dr. Ernest Abbott of Physicists Research Co., Ann Arbor, Mich., who developed the device. John Wyllie, Jr., vice president and general manager of Temprite Products Corp., was chairman of the meeting.

Development of the Profilometer, Dr. Abbott explained, resulted from the problem encountered by a steel company in attempting to control the smoothness of enameling steel.

If the surface were too smooth, it would not hold the enamel; if it were too rough, irregularities would show up through the enamel. Consequently, Dr. Abbott went on, it was necessary to ascertain the exact degree of roughness required for best results, and to maintain this uniformly throughout production.

Best way to ascertain the exact roughness of surfaces, it was found, was to run a sort of "educated finger

nail" over them, and have all irregularities recorded on a dial. This the Profilometer is designed to do, by means of a finely-pointed diamond needle, held in a "tracer block."

When the tracer block is moved across the surface under inspection, the diamond needle, induced by highly-amplified electric current, moves up and down within the minute "wiggles" in the surface, and indicates roughness within one-millionth of an inch, or, as Dr. Abbott says, in "microinches."

Using this instrument, the surface condition of the specimen can be measured in a few seconds, and an average of the surface roughness determined. Surface irregularities, or waves, also may be determined with the instrument by adjusting the dial to a second stage which allows the tracer needle to omit surface roughness and indicate only irregularities.

Determining these irregularities, says Dr. Abbott, is as important as determining surface roughness on bearings, cylinder walls, and similar surfaces.

Following Dr. Abbott's talk, Hugo Hutzel of Kelvinator Corp. was elected vice chairman of the Detroit section to succeed D. D. Wile, who left Detroit recently to go with Savage Arms Corp., Utica, N. Y.

### Declare New Material Has Refrigerator Use

WATERVIET, N. Y.—Production of "Ludlite," a new material composed of a sheet of thin stainless steel with a flexible, waterproof, non-metallic backing, has been announced by Hiland G. Batcheller, president of Ludlum Steel Co.

Ludlite can be applied in innumerable uses, it is claimed, two of them being as insulation for refrigerators and lining for ice boxes. The stainless steel, known as "Silcrome," and the backing of Ludlite are permanently bonded through heat and pressure.

The flexible backing material deadens sound in addition to acting as an insulator. Ludlite is produced in rolls 2 feet wide and either 50 or 100 feet long, and also in 4-inch square tiles.

Outstanding feature claimed for the new product is the ease with which it can be installed. It can be cut and shaped with ordinary heavy scissors and cemented, nailed, or screwed in place, the manufacturer claims.

A molding strip of stainless steel for finishing edges and intersecting surfaces also is available in all required shapes and styles.

Special new equipment has been installed in a new mill constructed for the production of Ludlite by the Ludlum Steel Co.

### Lift-Plug Valves Shown In New Leaflet

CORAOPOLIS, Pa.—Homestead Valve Mfg. Co., Inc., has issued a new leaflet describing Homestead lift-plug valves designed for use in the chemical industry, in oil refineries, paper mills, power plants, rayon and textile plants, and steel mills.

The valves are made for working pressures up to 1,500 lbs., and for temperatures up to 750° F. Sizes range from 1½ inches to 10 inches in the straight-way type. Some three-way and four-way sizes also are available.

### Mel Spayd Joins Staff Of Standard Register

DAYTON—Mel A. Spayd, administrative executive in charge of sales planning for Standard Register Co., has been appointed general manager in charge of manufacturing and sales, according to an announcement by John Q. Sherman, president.

Mr. Spayd formerly was connected with the Frigidaire division of General Motors Corp., and is vice president of the Dayton chamber of commerce.

### G-E's Dr. Suits Is Honored

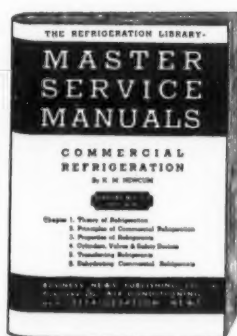
SCHENECTADY — Dr. Chauncey Guy Suits, research physicist of the General Electric research laboratory, has been selected as America's outstanding young electrical engineer for 1937, according to an announcement by Eta Kappa Nu, honorary electrical engineering fraternity.

Dr. Suits was selected from a group of 60 candidates, all less than 35 years of age, submitted by leading industrialists and educators. Presentation of the award was made during the program of the mid-winter convention of the American Institute of Electrical Engineers which was held in New York City.

## MASTER SERVICE MANUALS

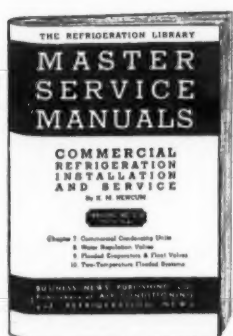
By K. M. Newcum

## Commercial Refrigeration



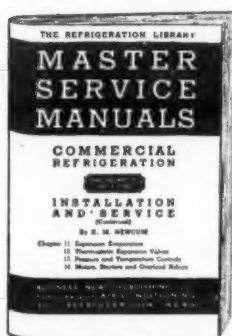
Commercial Manual C-1

**MANUAL NO. C-1**—The theory and principles of refrigeration presented in a more complete manner than in previous manuals. Properties of refrigerants, including effect on lubricating oils, inflammability and explosive characteristics. Types of refrigerant cylinders, valves, and safety devices. Drying and transferring refrigerants. 96 pages. Price \$1.00.



Commercial Manual C-2

**MANUAL NO. C-2**—Installation and service methods. Detailed information on commercial condensing units and their component parts. Water regulating valves, both electric and pressure-actuated types. Flooded evaporators and low side float valves. Two-temperature low side float valve flooded systems. 112 pages. Price \$1.00.



Commercial Manual C-3

**MANUAL NO. C-3**—Installation and service methods continued. Chapters on expansion evaporators, including blower units and all modern types. Thermostatic expansion valves. Pressure and temperature controls. Refrigerant control valves. Electric motors, starters, overload relays. 144 pages. Price \$1.00. Complete set of three books, postpaid \$3.00.

Master Service Manuals on COMMERCIAL refrigeration offer an advanced course of study dealing with the more complicated problems encountered in a wide variety of commercial refrigeration applications. Most textbooks on refrigeration are based upon practice of ice and cold storage companies and deal entirely with ammonia type machines, whereas a very large percentage of the installations now in use and the equipment now being sold, use Freon, sulphur dioxide, or methyl chloride. These books are entirely modern and deal with designs and problems, installation and service which are met in actual commercial practice today.

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## Refrigeration

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# Air Conditioning

## 6 Big Jobs Placed In Chicago During Jan.

CHICAGO—Six central air-conditioning plants with an aggregate capacity of 150 tons and 196½ hp. and one ¼-ton, ¼-hp. room cooler were installed in Chicago during January, according to figures compiled by Commonwealth Edison Co.

Central systems were installed in one church, one funeral parlor, one office, two restaurants, and one fur store. The room cooler was installed in a doctor's office.

Biggest installation for the month was the 75-ton, 106-hp. system added to the equipment already in the Pittsfield building. Only other installation of major size was the 50-ton, 62-hp. plant placed in Our Lady of Sorrows church.

Other central systems installed were: Stanley P. Mazeika, funeral parlor, 10 tons, 12½ hp.; Peter Mondane, restaurant, 5 tons, 5½ hp.; Arthur Roache, restaurant, 5 tons, 5½ hp.; A. Bishop, fur store, 5 tons.

## Kelbur Co. To Handle Airtemp In Arkansas

LITTLE ROCK, Ark.—Kelbur Air Conditioning Co., said to be the first exclusive air-conditioning firm to be established in Arkansas, has opened sales and engineering offices here as Airtemp distributor for 32 Arkansas counties.

George D. Kelley, formerly of the George D. Kelley Lumber Co., is president of the new distributorship. Associated with him are C. S. Burns and W. T. Kellogg, a factory-trained engineer who has been connected with General Electric Co., York Ice Machinery Corp., and Airtemp, Inc.

In addition to air-conditioning and heating equipment, the Kelbur Co. will sell and install modern types of attic ventilation systems. The company now is installing a \$50,000 heating and ventilating system in the Crossett Lumber Co. plant, Crossett, Ark.

## New Polyphase Motor Introduced By Wagner

ST. LOUIS—Suitable for large air-conditioning installations, a new polyphase electric motor with low starting current and high starting torque has been announced by Wagner Electric Corp.

The new motor was developed primarily for installations in localities where double squirrel-cage motors of larger sizes would produce undesirable voltage variations, and where a motor which meets rigid starting current requirements is preferred.

Ordinarily built only in sizes of 40 hp. and larger, the new RT motor is controlled by a magnetic starter which contains two contactors.

## Carrier Appoints Barker To New Orleans Post

NEW ORLEANS—Raymond L. Barker, of the home office of Carrier Corp. in Syracuse, N. Y., has been appointed merchandise manager for the expansion of Carrier air-conditioning operations in the New Orleans district.

O. E. Gammill, Jr., former district manager, will remain in charge of large contracting operations.

## Dollar Store Gets Cooling

SAN BERNADINO, Calif. — A \$2,800 cooling system is being installed in the National Dollar Stores building here.

## Water-Cooled System Being Installed On Pleasure Yacht

BAY CITY, Mich. — A Diesel-powered yacht, 150 feet in length, under construction at the docks of the DeFoe Boat and Motor Works, is being completely equipped with Kelvinator air conditioning and commercial refrigeration by George F. Dent, Kelvinator distributor here.

Built for an undisclosed owner, the yacht will have five tons of air-conditioning equipment. Water cooled to 50° F. by means of a heat exchanger will be circulated to the part of the boat where air cooling is required.

All motors used on the refrigeration system will be of special marine type, and the condenser will be a special salt-water type, built by the Ross Heater Corp.

Three commercial storage systems will be operated from one ¼-hp. Kelvinator compressor. Meat storage will be held at 38° to 40° F. The meat storage compartment will be regulated in temperature by the suction pressure of the ice machine, and the other compartments will be kept at the proper temperature by two Temprite No. 700 valves. Supply lines to the three compartments will be manifolded.

The completed yacht also will carry a Kelvinator Model KS-70 household refrigerator as part of its regular equipment.

## Continual Air Change Features Cafe Job

NEW YORK CITY—The "smoke gets in your eyes" atmosphere of many night clubs has been eliminated in "Bill's Gay 90's," which boasts of its "Old New York" appearance, through the use of air conditioning in its low-ceiling rooms.

To overcome the problem of excessive smoking, the management recently installed a Carrier air-conditioning system, which provides a continual change of air at the correct temperature and humidity.

Tobacco smoke is whirled from the crowded tables to the outgoing grilles and then blown into the outside air. All exhaust air is replaced with clean tempered air taken from outdoors and passed through the conditioning system.

Another popular New York City restaurant which recently installed a Carrier system, the "Bird in Hand," was faced with the dirt and noise problem so prevalent in the Times Square district. A year-around system was installed to meet competition of other air-conditioned restaurants in the district, and to overcome the noise problem. Doors and windows are now kept shut at all times.

## PLEASANTAIRE

The original low cost, window-type room cooler you can sell door-to-door. Write for the "Pleasantaire Package Plan"—a sure road to air conditioning profits this summer. . . . Read what users in 40 states think about the way this mighty little gadget outsmarts Mother Nature.

## PLEASANTAIRE CORPORATION

1623 Conn. Ave., Washington, D. C.

## Carrier Describes Revised Power Estimates; Whitwell Predicts Rate Structure Changes

SYRACUSE, N. Y.—Air conditioning demand in the last six years has increased so rapidly that power consumption estimates based on the trend before 1932 must be revised to keep the industry's growth, Willis H. Carrier, chairman of the board of Carrier Corp., said in an address before a hundred public utility engineers at Carrier's new plant here. Besides representing every section of the United States, utility men were present from England and Portugal.

In his 1932 study, Mr. Carrier explained, he predicted air-conditioning systems in use in 1948 would require approximately 2,550,000 hp. or 1,432,000,000 kwh. On the basis of the trend since 1932, he said, 1948 air-conditioning systems actually will need approximately 11,350,000 hp. or 8,350,000,000 kwh.

Mr. Carrier pointed out that utility companies should welcome the increased power consumption brought about by air conditioning because of the diversity factor such a load offers. He held that with the growing use of year-around air conditioning, the power consumption would be more constant, and not concentrated in the summer.

L. R. Boulware, vice president and general manager, also stressed the "over selling" of summer air conditioning. He said that winter air conditioning could be added to give the user a year-around system with only a slight additional investment.

"There are three ways of obtaining a better distribution of the air-

conditioning power needs," he said, "through the use of storage systems, dehydration with silica gel, and the heat pump. Storing cold is not new, however; it was first installed by Carrier 25 years ago."

Speaking from the utility angle, George E. Whitwell, vice president of Philadelphia Electric Co., urged the power companies to take the lead through education in promoting public acceptance of air conditioning.

"The utilities—by cooperating with the manufacturers in publicizing the recently accepted definition of air conditioning—can aid materially in correcting misconceptions," he said.

Mr. Whitwell added that eventually public utilities are going to have to meet the air-conditioning load. He said that as long as this is true "now is as good a time as any." He also recommended the promotion of year-around air conditioning as a solution to the load factor problem.

"If air conditioning becomes so popular that utilities experience summer peaks on their systems, we utility men should not look forward to it with apprehension. Rather, it should serve as a stimulus for the correction of our rate structures, if necessary, and for the more intensive promotion of the innumerable applications of electricity that tend to create winter peaks. After due consideration of the incident difficulties, I am of the opinion that utilities should want air-conditioning load, and should do everything they can to develop it."

## Conditioned Library Keeps Rare Volumes From 'Cracking'

WELLSVILLE, N. Y.—A Carrier all-season air-conditioning system has been installed in the David A. Howe Memorial Library here, serving to provide comfort for occupants and to preserve rare and valuable books from dirt and improper winter humidity conditions.

Summer refrigeration is furnished with well water drawn from beneath the building.

Librarians have found that with the air conditioning there is less tendency for pages of the old books in the collection to "crack" and deteriorate. Elimination of dust and dirt from the air, and proper humidification, are fundamental in preserving the treasured volumes.

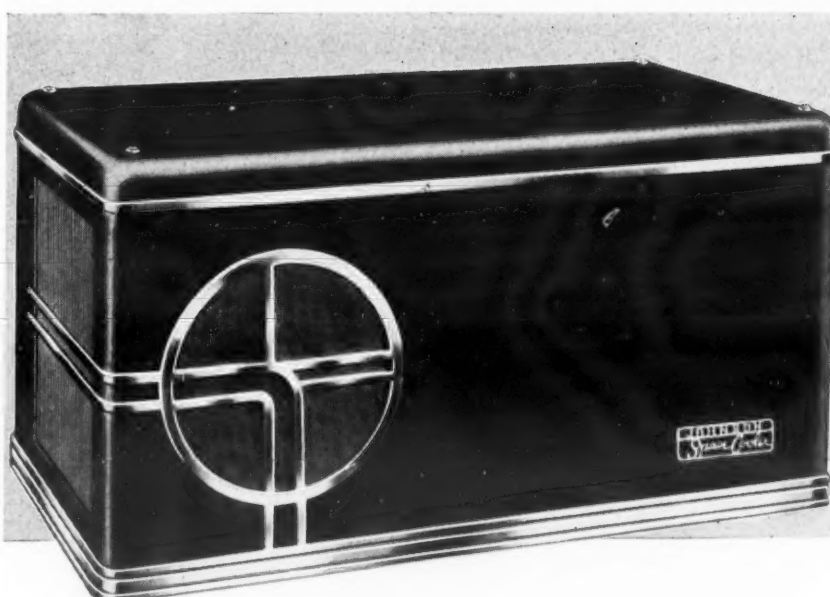
## Central Airtemp Dealers To Meet In Detroit

DETROIT—As part of a nationwide sales promotion and dealer organization campaign, Airtemp Construction Corp., Detroit subsidiary of Airtemp, Inc., Dayton, will conduct a two-day dealer meeting Feb. 23 and 24 in the Hotel Statler. More than 80 dealers and their representatives are expected to attend.

The meeting will be conducted by R. M. Miller, director of sales promotion, and J. C. Chambers, regional manager of Airtemp, Inc.; and H. B. Orr and James E. Wilson of Airtemp Construction Corp.

# Johnson Announces

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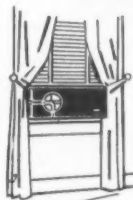
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It offers the refreshing comfort of a mountain cabin to people in homes, in offices, in hospitals, hotels, clubs. Its popular price brings it within the reach of thousands of doctors, dentists, lawyers, sufferers from hay fever, and others who have long wanted a DEPENDABLE product of this type.

It is the product of Johnson Motors, builders of the world famous Sea-Horse Outboard Motors, household electric refrigerators and other products of outstanding quality. More than five years in refrigeration, with many notable developments to its credit, have given Johnson a perfect background for this latest achievement.

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# Service Methods

## Proper Relationship Of Temperatures And CO<sub>2</sub> Gas Very Important In Getting Properly Drawn Draught Beer

BY K. M. NEWCUM

**Editor's Note:** This is the conclusion of an article, started in the Feb. 16 issue, explaining methods of correcting conditions that cause beer to taste or look poorly.

Mr. Newcum has based his article on data presented by James Goodwin, sales engineer of Temprite Products Corp., before the service sessions of a series of educational meetings recently held by Temprite.

### Bad Taste

Dirty coils are a cause of bad tasting or "skunky" beer, as are long or deteriorated beer (rubber) hoses, and an improperly located or filtered beer pump.

#### NO. 1. DIRTY COILS

The conditions caused by dirty coils and beer lines have been discussed. Coils and lines should be cleaned until they smell sweet. Clean sweet-smelling beer coils and lines will go a long way toward correcting a bad taste condition.

#### NO. 2. BEER HOSE

Rubber hose made especially for use with beer has a pure white rubber lining. This pure rubber

lining prevents the beer from picking up the common garden hose variety of rubber taste. Hose not provided with this neutral lining should not be used for beer lines.

Even the better grades of special beer hose have a short life. The white lining has a tendency to pit. Pitting often occurs within a month. When pitted the beer is allowed to contact the regular rubber of the hose. Result is that the beer tastes "skunky."

Rubber beer hoses should be changed every month to insure against bad tasting beer. Matter of fact rubber hose should never be used—block tin tubing is far superior and has an indefinite life.

#### NO. 3. AIR PUMP

An air pump should be used for maintaining the pressure on the beer in preference to CO<sub>2</sub>. However, there are certain requirements for the proper use of the air pump.

The pump should be equipped with an efficient filter to prevent dust and dirt from entering the air stream, hence the beer.

The air intake of the pump should be located where only clean, non-contaminated air is drawn into the pump.

Several cases of bad tasting beer have been investigated, and the discovery made that the beer pump intake was located near a garbage can or other refuse. The vile odors given off by garbage or other decayed particles were drawn into the pump, and subsequently went into solution with the beer. Bad or "skunky" tasting beer resulted.

Where a desirable pump location is not possible an intake line should be run out-of-doors, and up several feet from the ground to assure a supply of pure, odor-free air.

An activated carbon filter placed in the intake line will remove a large percentage of foreign odors. Its use is recommended where the supply of odor-free air is questionable.

### Coarse Bubble Foam

Draught beer which leaves the faucet with a coarse bubble foam may be due to one or more of the following reasons: cheap beer, with no body; partly flat beer; beer too cold.

Table 1—CO<sub>2</sub> Gas Pressure-Temperature Relationship For Beer

	Gauge Pressure—Pounds per Sq. In.																				
	0	2	4	6	8	10	12	14	16	18	20	22	24	26	28	30	32	34	36	38	
32°	1.71	1.9	2.2	2.4	2.6	2.9	3.1	3.3	3.5	3.8	4.0	4.2	4.4	4.7	4.9	5.2	5.4	5.6	5.8	6.1	32°
33°	1.68	1.9	2.1	2.4	2.6	2.8	3.0	3.2	3.5	3.7	3.9	4.1	4.3	4.6	4.8	5.1	5.3	5.5	5.7	5.9	33°
34°	1.64	1.9	2.1	2.3	2.5	2.7	2.9	3.2	3.4	3.6	3.8	4.1	4.3	4.5	4.7	4.9	5.2	5.4	5.6	5.8	34°
35°	1.61	1.8	2.0	2.3	2.5	2.7	2.9	3.1	3.3	3.5	3.8	4.0	4.2	4.4	4.6	4.8	5.1	5.2	5.5	5.7	35°
36°	1.57	1.8	2.0	2.2	2.4	2.6	2.8	3.0	3.3	3.5	3.7	3.9	4.1	4.3	4.5	4.7	5.0	5.2	5.4	5.6	36°
37°	1.54	1.7	2.0	2.2	2.4	2.6	2.8	3.0	3.2	3.4	3.6	3.8	4.0	4.2	4.4	4.6	4.9	5.1	5.3	5.5	37°
38°	1.51	1.7	1.9	2.1	2.3	2.5	2.7	2.9	3.1	3.3	3.5	3.7	3.9	4.1	4.3	4.5	4.8	5.0	5.2	5.4	38°
39°	1.47	1.7	1.9	2.1	2.3	2.5	2.7	2.9	3.1	3.3	3.5	3.7	3.9	4.0	4.3	4.5	4.7	4.9	5.1	5.3	39°
40°	1.45	1.6	1.8	2.0	2.2	2.4	2.6	2.8	3.0	3.2	3.4	3.6	3.8	4.0	4.2	4.3	4.5	4.7	4.9	5.1	40°
41°	1.42	1.6	1.8	2.0	2.2	2.4	2.6	2.8	2.9	3.1	3.3	3.5	3.7	3.9	4.1	4.2	4.4	4.6	4.8	5.0	41°
42°	1.40	1.6	1.8	2.0	2.1	2.3	2.5	2.8	2.9	3.1	3.3	3.5	3.6	3.8	4.0	4.2	4.4	4.6	4.7	4.9	42°
43°	1.37	1.6	1.7	1.9	2.1	2.3	2.5	2.7	2.8	3.0	3.2	3.4	3.6	3.8	3.9	4.1	4.3	4.5	4.7	4.8	43°
44°	1.35	1.5	1.7	1.9	2.1	2.2	2.4	2.6	2.8	3.0	3.1	3.3	3.5	3.7	3.9	4.0	4.2	4.4	4.6	4.8	44°
45°	1.32	1.5	1.7	1.8	2.0	2.2	2.4	2.5	2.7	2.9	3.1	3.3	3.4	3.6	3.8	4.0	4.1	4.3	4.5	4.7	45°
46°	1.29	1.5	1.6	1.8	2.0	2.2	2.3	2.5	2.7	2.8	3.0	3.2	3.4	3.5	3.7	3.9	4.0	4.2	4.4	4.6	46°
47°	1.26	1.4	1.6	1.8	1.9	2.1	2.3	2.4	2.6	2.8	2.9	3.1	3.3	3.5	3.6	3.8	4.0	4.1	4.3	4.5	47°
48°	1.24	1.4	1.6	1.7	1.9	2.1	2.2	2.4	2.6	2.7	2.9	3.1	3.2	3.4	3.6	3.7	3.9	4.1	4.2	4.4	48°
49°	1.21	1.4	1.5	1.7	1.9	2.0	2.2	2.4	2.5	2.7	2.8	3.0	3.2	3.3	3.5	3.7	3.8	4.0	4.1	4.3	49°
50°	1.19	1.4	1.5	1.7	1.8	2.0	2.2	2.3	2.5	2.6	2.8	2.9	3.1	3.3	3.4	3.6	3.7	3.9	4.0	4.2	50°
51°	1.17	1.3	1.5	1.6	1.8	2.0	2.1	2.3	2.4	2.6	2.7	2.9	3.1	3.2	3.4	3.5	3.7	3.8	4.0	4.2	51°
52°	1.15	1.3	1.5	1.6	1.8	1.9	2.1	2.2	2.4	2.5	2.7	2.8	3.0	3.2	3.3	3.5	3.6	3.8	3.9	4.1	52°
53°	1.13	1.3	1.4	1.6	1.7	1.9	2.0	2.2	2.3	2.5	2.6	2.8	2.9	3.1	3.3	3.4	3.6	3.7	3.8	4.0	53°
54°	1.11	1.3	1.4	1.5	1.7	1.9	2.0	2.2	2.3	2.4	2.6	2.7	2.9	3.0	3.2	3.3	3.5	3.6	3.8	3.9	54°
55°	1.10	1.2	1.4	1.5	1.7	1.8	2.0	2.1	2.3	2.4	2.6	2.7	2.8	3.0	3.1	3.3	3.4	3.6	3.7	3.9	55°
56°	1.08	1.2	1.4	1.5	1.6	1.8	1.9	2.1	2.2	2.4	2.5	2.6	2.8	2.9	3.1	3.2	3.4	3.5	3.7	3.9	56°
57°	1.06	1.2	1.3	1.5	1.6	1.8	1.9	2.0	2.2	2.3	2.5	2.6	2.7	2.9	3.0	3.2	3.3	3.5	3.6	3.7	57°
58°	1.04	1.2	1.3	1.5	1.6	1.7	1.9	2.0	2.1	2.3	2.4	2.6	2.7	2.8	3.0	3.1	3.3	3.4	3.5	3.7	58°
59°	1.02	1.2	1.3	1.4	1.6	1.7	1.8	2.0	2.1	2.2	2.4	2.5	2.7	2.8	2.9	3.1	3.2	3.3	3.5	3.6	59°

Courtesy of Liquid Carbonic Corp.

Above figures represent volume of gas dissolved in one volume of beer at the given temperature and pressure.

### NO. 1. CHEAP BEER, NO BODY

Cheap beer is a term used to describe a beer that is made to a price and consequently does not have the necessary amount and quality of ingredients to give it a full body.

Cheap beer, which does not have the proper body to start with, will generally be drawn with a coarse bubble foam. This condition should be corrected by the brewer or by recommending that the customer buy a quality beer, if he expects quality results.

### NO. 2. PARTLY FLAT BEER

Beer that is partially flat will foam when being drawn.

Flat beer may have been under carbonated at the brewery, or may have lost a part of its CO<sub>2</sub> content, because the keg pressure was too low for the temperature involved.

To correct this condition, raise the keg pressure to correspond with the highest temperature part of the system as shown in Table 1 (which gives the CO<sub>2</sub> gas-pressure temperature relationship for beer).

### NO. 3. BEER TOO COLD

If the beer at the keg is below 45° to 50° and/or below 40° (+ or - 1°) at the cooler, the temperature should be adjusted to within these ranges.

## CO<sub>2</sub> Gas, Pressure-Temperature Relationship For Beer

When beer is made at the brewery it is carbonated with the proper amount of CO<sub>2</sub> gas. The keg is then filled completely full (all the way to the top) with the properly carbonated and cooled beer.

The keg acts as an insulator and will keep the temperature of the beer sufficiently low to prevent spoilage for several hours.

When received at the tavern the beer should be immediately stored in a precooling room at a temperature of between 45° and 50°. Beer, like milk, will spoil if subject to a high temperature for an extended period.

Precooled beer under the correct pressure, with properly insulated beer lines, and cooled by a Temprite cooler adjusted for a draught temperature of 40°, should flow from the faucet in a smooth amber colored stream with no indication of foam or white marks.

Different breweries carbonate their

beer or grades of beer with different volumes of CO<sub>2</sub> gas per one volume of beer at given temperature or pressure.

### PURPOSE OF PRESSURE

The only purpose of the air pump pressure or CO<sub>2</sub> tank gas pressure is to maintain a pressure upon the beer to hold in solution with the beer the volumes of CO<sub>2</sub> gas originally dissolved in the beer at the brewery.

If the pressure upon the beer is allowed to run lower for a particular CO<sub>2</sub> content of beer than the pressure-temperature at which it was carbonated, a percentage of the CO<sub>2</sub> will leave the beer, in accordance with the pressure-temperature relationship table.

To become better acquainted with the use of the table this example may be followed:

A particular make of beer is charged with 2.7 volumes of CO<sub>2</sub> gas for one volume of beer at a temperature of 45° F. and a pressure of 16 lbs. per sq. in.

Assume this beer were cool when delivered and immediately stored in a 45° to 50° pre cooler, and connected through insulated beer lines to a Temprite cooler having a draught temperature of 40°. The highest temperature within the entire system would be around 45 to 50°.

The air pressure required for this particular job would, according to the table, be 20 lbs.

At 20 lbs. pressure and at temperature of 50° the original 2.7 volumes of CO<sub>2</sub> gas will remain in solution with the beer.

With the lines clean and all other parts of the system functioning perfectly, the beer will be drawn in the exact condition intended by the brewery. The beer should be in perfect condition, leaving the faucet in a clear amber stream and having a normal head and an excellent taste.

### FIGURING RELATIONSHIP

Assume, for further example, that with the same CO<sub>2</sub> content beer (2.7 volumes of CO<sub>2</sub> at 16 lbs. and 40°) the keg was stored in a 59° basement (no pre cooler) and the beer lines were not insulated.

Allowing a few hours for the beer to warm up to 59° (temperature of the basement) it will be noted from the table that it will require a pressure of 24 lbs. to keep 2.7 volumes of CO<sub>2</sub> in solution with the beer.

If the pressure is not increased to 24 lbs. (is left at 16 lbs.) .6 volumes of CO<sub>2</sub> gas will leave the beer and will appear as bubbles at the faucet. Consequently, the beer will be foamy

and flat, and will not have the excellent taste and body which it was intended to have.

### LINES MAY WARM UP

For further example, assume the keg is stored in a 50° pre cooler, but the beer lines are not insulated. In passing through the basement, which for example, has a temperature of 80°, the beer in the lines will warm up. When the temperature of the beer in the lines exceeds 50°, CO<sub>2</sub> gas will separate from the beer. The CO<sub>2</sub> thus separated will result in the beer being foamy and/or flat when drawn.

The point to remember is that the air pressure upon the beer must be adjusted in accordance with the highest prevailing temperature in the entire system.

The air pressure may be higher than shown on the chart for the particular job without any adverse effect upon the beer proper. However, higher pressure in the system increases the flow through the faucet. Often a restriction in or between the faucet and the cooler is necessary to reduce the flow.

Higher pressure also increases the current consumption of the air pump motor.

The ideal condition is to have the beer in a pre cooler of proper temperature. Have the pre cooler adjacent to the Temprite cooler. Have the lines well insulated and the faucet connected directly to the Temprite cooler.

With these ideal conditions maintain a pressure upon the beer of a few pounds higher than shown on the chart for the particular CO<sub>2</sub> content beer involved, at the highest prevailing temperature.

### ADJUSTING FOR SEASON

A condition that may often be found is one in which the beer job was installed in the summer and the pressure adjusted for highest prevailing temperatures at that time. In the winter, when the heating system is put into operation the user complains of his beer being foamy or flat.

Investigations have revealed that the beer lines were run near a hot water pipe, steam pipe or hot air duct. The proximity of the beer lines to these pipes or ducts did not affect the beer in the summer because the pipes were not hot. However, when the heating system was turned on, the beer in the lines heated to above the summer pressure-temperature relation and some of the CO<sub>2</sub> separated from the beer in the lines.

Other unusual conditions will suggest themselves to service men who will make careful study of Table 1 and the effect of pressure and temperature upon the beer in a Temprite system.

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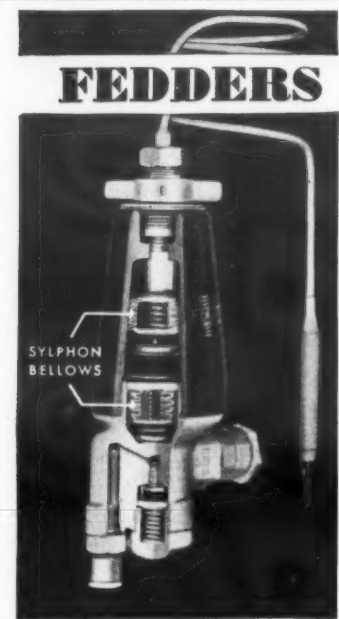
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Only in the genuine Sylphon Bellows do you get the accumulated years of research and experience which make them the most highly developed products in their field. Yet you pay no more for Sylphon Bellows. Ask for Bulletin DO-121. Sent on request.

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## Alco's Glass Evaporator Goes To the West Coast



Speaker at the Los Angeles Refrigeration Service Engineers' Society chapter's meeting was A. B. Schellenberg of Alco Valve Co., St. Louis, whose topic was "Thermostatic Ex-

pansion Valves." At left are L. E. Fowler, Pacific Scientific Co., Mr. Schellenberg, and C. W. Chidester of Pacific Scientific Co. examining the glass evaporator which was used to

illustrate the talk. On the right, the service men are crowding around the evaporator for close-ups of tests on the evaporator with top, vertical, and bottom feed.

## Officers And Members At Meeting Of Los Angeles R.S.E.S.



These pictures of the Los Angeles chapter No. 1 of Refrigeration Service Engineers' Society were taken at the organization's second regular meeting Feb. 11. Above are shown the chapter's officers. Seated, left to right: G. R. McLay, second vice president; W. W. Allison, president; K. Van Henderleider, first vice president. Standing, left to right: E. L. Glaser, director; K. E. Fosbender, director; C. D. Weisman, sergeant-at-arms; J. E. Salisbury, chairman, entertainment com-

mittee; John Lewis, secretary; T. E. Lawler, director; J. D. Rodgers, treasurer; J. H. Underwood, director; J. C. Blair, director and chairman, educational committee. Below are shown some of the 94 members and guests who attended the dinner which preceded the meeting. These pictures, as well as those shown above, were taken by L. P. Roth of Refrigeration Service, Inc., Los Angeles parts jobber.

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World's Largest Manufacturer of V-Belts

## Harry Alter Co. Issues New Refrigeration Parts Catalog

CHICAGO—Harry Alter Co., Inc., refrigeration supplies jobber, has issued a new catalog, No. 121, listing its complete line of tools, supplies, and equipment for household, commercial, and air conditioning. Several price changes are contained in the catalog, which also includes a number of pages of "closeout" merchandise.

## Three Win Refrigeration Study Courses At Detroit Exposition

DETROIT—A. Trombley, R. W. Douglas, and Earl Webb won the three free courses offered by the Detroit School of Refrigeration to holders of lucky tickets to the Detroit and Michigan Exposition, held recently in Convention Hall here.

## Phillips Talks To N.Y. R.S.E.S. On Controls

SYRACUSE, N. Y.—Thomas Phillips, who is connected with Detroit Lubricator Co.'s New York office, presented a detailed discussion of the various types of controls made by his company when he spoke before the last regular meeting of the central New York chapter No. 1 of the Refrigeration Service Engineers Society, reports Maurice H. Schwartzberg, secretary.

Mr. Phillips explained the characteristics and applications of each control, describing its installation and function in various types of refrigeration and air-conditioning equipment.

Mr. Phillips, in his talk, told of the simplicity with which these controls could be serviced in the field and explained the adjustment which provides for resetting of the differential as well as for raising or lowering the temperature.

The meeting was followed by a period of entertainment furnished by Syracuse Supply Co., Syracuse Equipment Co., and Graybar Electric Co.

The chapter's annual banquet, scheduled to be held Feb. 26 at Green Gate Inn, was announced.

## New Booklet Available On Electrical Code

BRIDGEPORT, Conn.—A pictorial presentation of the 1937 National Electrical Code, in the form of charts prepared by John M. Turnbull, has been issued in the form of a booklet by the construction materials sales division of General Electric Co.

The booklet is designed so that a copy of the code itself may be pasted on the inside of the front cover.

## L. H. Pratt Manufacturers' Agent in California

SAN FRANCISCO—Leonard H. Pratt is establishing himself as a manufacturer's agent for Northern and Central California, with offices at 1081 Mission St. here. He is a brother of Clarence F. (Sandy) Pratt, president of California Refrigerator Co. and a director of National Refrigeration Supply Jobbers Association.

## Goodyear Establishes Cleveland Sales Office

CLEVELAND—A new district for the sale and distribution of mechanical rubber goods has been established here by the mechanical goods department of Goodyear Tire & Rubber Co., Inc., Akron, Ohio. Headquarters of the Cleveland district are in the company's tire sales district office.

Formerly a part of the Pittsburgh sales district, the new territory includes Akron, Youngstown, Canton, and the area bounded by them.

H. D. Foster, mechanical goods salesman for Goodyear since 1924, has been promoted to the position of manager of the new district.

## Oberc Handles Copeland Units On Jobbing Basis

DETROIT—Appointment of J. M. Oberc, Inc. as jobber of Copeland commercial refrigeration units to replace W. C. DuComb, who previously jobbed the Copeland line in this territory, has been announced by R. G. Berg, assistant sales manager of Copeland Refrigerator Co.

## Central Service Supply Has Anniversary Party

SCRANTON, Pa.—Central Service Supply Co., jobber of refrigeration and stoker supplies, recently celebrated its first anniversary by staging a dinner-meeting at Hotel Jermyn for 60 refrigeration and air-conditioning dealers, service men, and contractors from central and northeastern Pennsylvania and lower New York.

T. I. Glou, proprietor of Central Service Supply Co., spoke on the company's growth and policies. E. Fitzgerald and Paul Domke, Mueller Brass Co., also spoke, and Mr. Domke gave practical demonstrations of air-conditioning installation methods.

In addition to service company representatives, P. H. Berry, Mueller Brass Co., Paul Provost, Mercoid Corp., and Harry Klingler, Trenton Auto Radiator Works, were present.

## New Norge Service Shop Opened In Los Angeles

LOS ANGELES—Norge Refrigeration Service Shop has been opened here at 1230 W. Jefferson Blvd. by Christopher F. Burns.

**TYLER**  
WELDED STEEL Refrigerators

This year, more than ever, the Tyler line is the popular line in the commercial refrigerator field. Now complete with Top Display, Double Duty, Delicatessen, Reach-In cases and Walk-In coolers. Sizes and types to take care of every prospect. Welded steel construction and other exclusive features make TYLER

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NEW YORK OFFICE: 601 W. 26TH ST. CHICAGO OFFICE: 1863 W. OGDEN AVE.

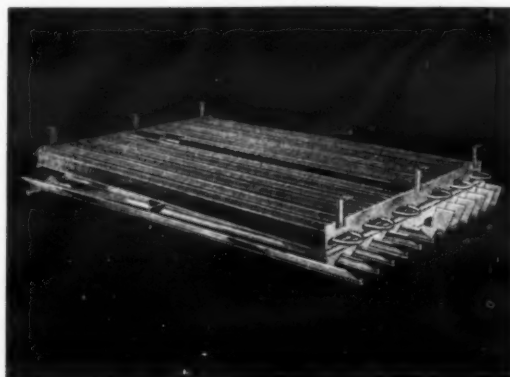
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**NEW ECON-O-CASE**

In design, in construction, in performance, this new display case is a sensation. Yet it is low in price and economical to operate. The Koch line is complete. There is a counter, a cooler, or a refrigerator that will meet every requirement. **WRITE KOCH TODAY**

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There is big money in the Koch line for qualified distributors.

## Extra Profit in the Peerless Flash Cooler



The Peerless Flash Cooler will earn extra profit for you. When you sell the Flash Cooler you sell a Complete Lowside, including the drip pan as well as the coil and hanger. No need to call in an outsider to construct and hang the drip pan because it's part of the unit.

And these full opening, multi-louvered Flash Cooler pans are not only far superior and more profitable, but also lend a beauty and eye appeal that is unequalled.

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# Air Conditioning

## Higher Dewpoint, Sensible Back-Heating & Automatic Devices Should Be Used For Low Cost Steam Jet System Operation

NEW YORK CITY—"With the introduction of steam jet refrigeration, district heating companies became interested in it as a potential source of summer load," declared A. R. Mumford, research engineer, New York Steam Corp., during his address before the recent annual meeting of the American Society of Heating and Ventilating Engineers here.

The speaker further explained that although it may appear to be a poor policy for the vendors of central station steam to tell people how to save steam when operating their steam jet refrigeration, actually the benefit to the utility will be much greater if economy of operation is improved until the use of steam for refrigeration becomes more general.

Three practices for reduction of specific steam consumption were described. They were as follows:

1. Use of higher room dewpoint temperatures along comfortable ef-

fective temperature lines, rather than adhering closely to low fixed dewpoint temperatures. It was shown that since higher dewpoint temperatures permit the circulation of warmer chilled water through the air-conditioning coil, and that since warmer chilled water temperatures permit higher flash tank pressures and temperatures, this practice would reduce steam consumption because of the higher efficiencies obtained at higher flash tank (or evaporator) temperatures.

2. Use of sensible "back-heating" for the installation of excessive latent ratio. It was explained that employment of back-heat would result in raising the effective latent ratio of the installation because it would counteract some of the sensible work done by it. Thus chilled water at higher temperatures and flash tank temperatures would be permitted, with the attendant rise in

efficiency noted above.

3. Use of automatic devices devised to operate the jet or "booster" at the lowest steam pressure possible to enable it to carry the existing load. This practice, averred the speaker, would reduce steam consumption, and would reduce the condensing water rate as well because there would be less steam at lower temperature to be condensed.

In support of his contention regarding the use of higher room dewpoints and humidities, the speaker said:

"One of the important variables is the people load which, in most cases, is the principal source of latent heat load. It is obvious that this load will vary during the day and, if comfort conditions are to be carefully maintained without reheat, the dewpoint must be changed to suit the new ratio.

"It is to be noted that control along the effective temperature line within the comfort zone requires that the dry-bulb temperature vary from about 81.5° F. at 40% relative humidity to 78.5° F. at 60% relative humidity. The volume of air circulation is assumed to be constant so that variations of dry-bulb temperature and relative humidity result from changes in the proportion of recirculation and dewpoint.

"The ranges of load character which may be handled without reheat when the maintained conditions are allowed to vary along the effective temperature line and the dewpoint varies from a practical low of 40° F. to a maximum of 63.5° F. corresponding to the 60% relative humidity point on the effective temperature line.

### KEEP HIGHEST DEWPOINT

"It is shown that by varying the dewpoint, a change in load character of from 55% sensible heat to 100% sensible heat is possible in maintaining the desired conditions without reheat.

"By maintaining the maximum dewpoint for any given load character, the greatest economy of refrigerating energy will be realized. The range of load character permitted by this scheme of operation is sufficient to meet those changes typical of most commercial applications."

Regarding the use of back-heat to permit use of higher flash tank pressure, Mr. Mumford made the following statement:

"At the lowest dewpoint of 40° F., air (leaving the air conditioner) by-passing is all that is required and a load character of 63% sensible heat is the only one it is possible to meet. This ratio, however, can be met by a dewpoint of 56° F. (leaving the air conditioner) by reheating to 70° F. and eliminating air by-passing.

"For higher pickup ratios the treatment is the same as for the 63% ratio and the maximum dewpoint will rise with each ratio until, at 100% sensible heat pickup, the dewpoint leaving the air conditioner is about 60° F. At any pickup ratio between 63 and 100% the use of reheat permits the use of a higher minimum dewpoint (hence flash tank temperature).

### VALUE OF REHEAT

"Thus, where a set of conditions has been assumed which, without the use of sensible reheat, would call for a theoretical (final) dewpoint variation of from 40 to 60° F., it is apparent that the same conditions can be maintained by a dewpoint variation of only 4° F., from 56 to 60° F., if controlled reheat is provided.

"It is apparent that large washers (Continued on Page 17, Column 3)

## Where Air-Conditioning Systems Were Installed In Chicago In 1937


(Compiled by Commonwealth Edison Co. Air-Conditioning Division)

(Continued From Feb. 16 Issue)

Name and Address	Installation	Hp.	Tonnage
<b>Residences</b>			
Ames, K. L., Jr., 1300 N. State St.	Air Devices	0.5	0.5
Barker, Lewis, 10036 Longwood Dr.	Carrier-Air Comfort	7	6
Christian, R., 5113 N. Clark St.	Air Devices	0.5	0.5
Claridge, A. T., 9830 Longwood Dr.	Carrier-Air Comfort	6	6
Dressel, J. W., 9132 Longwood Dr.	Mills-Scheuwer	1	1
Dressel, Joseph W., 8020 Winchester Ave.	Mills-Scheuwer	1.5	1.5
Ennis, Geo. H., 24 Scott St.	Carrier-Air Comfort	0.75	0.75
Farquhar, C., 6901 Oglesby Ave.	Carrier-C.E.	0.75	0.75
Fay, J. L., Windemere West.	Air Devices	0.5	0.5
Field, Harry, 6916 Bennett.	Frigidaire	0.5	0.5
Frawley, Monsignor, 1709 Lunt Ave.	Panco	0.75	0.75
Freeman, C., 1450 N. Dearborn St.	Carrier-C.E.	0.75	0.75
Fuchs, Adolph, 5449 N. Ashland Ave.	General Electric	2	2
Ginsberg, Maurice, 2400 N. Western Ave.	Panco	0.75	0.75
Gorman, George, 9557 S. Longwood Dr.	General Electric	0.5	0.5
Hammond, L., 1367 N. State St.	Frigidaire-C.E.	0.75	0.75
Hannon, T. B., 4647 Malden Ave.	Carrier-C.E.	0.75	0.75
Hicks, Mr., Morrison Hotel.	Panco	2.25	2
Horton, George T., 4940 Woodlawn Ave.	General Electric-Glover	2	2
Howe, C. A., S. Shore Country Club.	Kelvinator	0.5	0.5
Howland, D. R., 10357 S. Leavitt St.	Air Devices	1.25	1
Kastner, J., 4234 W. 26th St.	Williams Oil-C.M.	2	2
Kellogg, J. L., 2952 Lake Shore Dr.	G-E-Baldwin	12-5	10
Kelly, T., 150 E. Ontario St.	Kelvinator	1	1
Kiddoo, S. T., 9812 Longwood Dr.	Fairbanks-Morse	0.75	0.75
King, Dr. Ivan, 5539 S. Cornell Ave.	Alre-Rite	1.5	1.5
MacGee, A. E., 6383 Sheridan Rd.	General Electric (SC)	1	1
Maguire, R., 3309 Washington Blvd.	Frigidaire-C.E.	0.75	0.75
Mannion, G. F., 9339 S. Hamilton Ave.	Trane	7	6
Marquis, C. F., 2652 Montrose Ave.	Frigidaire-C.E.	0.5	0.5
Marquis, C., 5016 N. Albany Ave.	Frigidaire-C.E.	0.75	0.75
McCormick, Blair, 1516 Lake Shore Dr.	Carrier-Air Comfort	1.5	1.5
McKinney, W., 3357 N. Central Ave.	Frigidaire-C.E.	0.5	0.5
McWhoater, G., 1526 W. 103rd St.	Air Devices	1.25	1
Mehan, J. H., 507 Barry Ave.	Carrier-C.E.	0.75	0.75
Morris, Edward, 2430 Lakeview Ave.	Carrier-Air Comfort	0.75	0.75
Niemann, W. D., 6608 Hlawatha Dr.	Kelvinator	0.75	0.75
Pace, E. W., Congress Hotel.	Carrier-Air Comfort	1	1
Peebles, C. G., 2057 Irving Pk. Blvd.	York-C.E.	0.75	0.75
Plum, A., 5648 Drexel Ave.	Air Devices	0.5	0.5
Reynolds, F. A., 2360 E. 70th Place.	Carrier-C.E.	0.75	0.75
Robinson, E. H., 4940 East End Ave.	Frigidaire-C.E.	0.75	0.75
Rosenthal, Mrs. S., Shoreland Hotel.	York-Harry Alter	0.75	0.75
Rosenthal, Dave, Shoreland Hotel.	York-Harry Alter	0.75	0.75
Rubenstein, Mrs. T., 550 Surf St.	Norge-Sampson	0.5	0.5
Schaefer, Mary F., 71 E. Cedar St.	Reliance-Blakeaire	5.25	5
Sharp, F. F., 6446 N. Sayre Ave.	Kelvinator	0.5	0.5
Smith, J. S., 9224 S. Damen Ave.	Carrier-Air Comfort	4.75	4
Spanjer, J. H., 2501 Lunt Ave.	Kelvinator	1	1
Standard Club, 307 S. Dearborn St.	Kelvinator	2	2
Straus, Leo, 257 E. Delaware.	Pleas. Air-Harry Alter	0.25	0.25
VanCleaf, Paul, 5421 Cornell Ave.	York-Harry Alter	0.75	0.75
Vermeren, Dr. J. C., 2148 Pratt Blvd.	York-West. & Camp.	3.5	3
Westerberg, O. D., 1901 N. New England.	Kelvinator	0.5	0.5
Wetherbee, G. D., 7700 Chappel.	Kelvinator	1	1
Zadny, F., 4006 W. 26th St.	Frigidaire-C.E.	0.75	0.75
Zitzewitz, W. W., 6541 N. Mozart St.	York-C.E.	0.75	0.75
<b>Restaurants</b>			
Acme Restaurant, 4754 W. 63rd St.	Dougherty	23	20
Adolphus Restaurant, 1045 N. Rush St.	Colombia Ventl.	12	10
Allerton Hotel, 701 N. Michigan Ave.	Frig-Kohlman	20	20
Anne's Restaurant, 57 E. Adams St.	Servel-Baldwin	15	15
Anne's Restaurant, 91 W. Randolph St.	Servel-Baldwin	10	10
B/G Sandwich Shop, 63 E. Van Buren St.	Carrier-Air Comfort	33	30
B/G Sandwich Shop, 174 W. Jackson Blvd.	York-West. & Camp.	45	40
B/G Sandwich Shop, 154 W. Washington St.	Carrier-Air Comfort	5	5
B/G Sandwich Shop, 430 N. Michigan Ave.	Carrier-Air Comfort	17	15
Barton, Frank, 724 W. 63rd St.	Reliance-Prentice	12	10
Berkshire Restaurant, 15 E. Ohio St.	Airtemp-Gen. Appl.	3.25	3
Biltmore Bar, 69 E. Madison St.	Airtemp-Gen. Appl.	11.5	10
Block's, 114 E. Cermak Rd.	Frigidaire	23	20
Blonde Nite Club, 602 S. State St.	Par-Modern Equip.	11	10
Blue Heaven Lounge, 1526 Hyde Park.	Merch. & Ev.-Hilger	17	15
Briggs Grill, 182 W. Adams.	Deissler-Reliable	25	20
Champlain Restaurant, 58 E. Monroe St.	Deissler-Reliable	23.75	20
Chicago Title & Trust, 190 E. Pearson St.	Carbon-Assemb.	35	30
Club Alabama, 747 N. Rush St.	G-E-Davis Const. (add'l)	9	7.5
Colosimos, 2126 S. Wabash Ave.	Reliance-Blake (add'l)	25	25
Cook's Restaurant, 1524 E. 63rd St.	Airtemp-Gen. Appl.	6.5	6
Croydon Circle, 614 N. Rush St.	Frick-Mid-Eng.	11	10
Dairi Belle, Inc., 920 E. 63rd St.	Assembled	4.25	4
Dairy Lane, 31 E. Jackson Blvd.	York-West. & Camp.	28	25
DeLazon Grill, 131 N. Dearborn St.	York-West. & Camp. (ad.)	15	15
De Mets, Inc., 64 E. Washington.	York-Adv. Heat	22	20
De Mets, Inc., 29 N. State St.	York-Adv. Heat (add'l)	12	10
Dixons Restaurant, 105 W. Madison St.	Vilter	40	40
885 Club, 885 N. Rush St.	Carrier-Air Comfort	17	15
Esquire Pub. 158 W. Randolph St.	Deissler-Reliable	5.75	5
Fera Restaurant, 4742 W. Madison St.	Airtemp-Gen. Appl.	3.25	3
Fera Restaurant, 1606 W. Madison St.	Airtemp-Gen. Appl.	3.25	3
Frankie's Casino, 7500 S. Halsted St.	Merch. & Ev.-Hilger	50	45
Ft. Dearborn Coffee Shop, 125 W. Van Buren St.	Midwest-Engineering (Brine)	25	25
Golden Gate, 6220 S. Halsted St.	Excel	13.5	10
Graemere Hotel, 113 N. Homan Ave.	York-West. & Camp.	28	25
Grand Terrace Cafe, 317 E. 35th St.	Frick-Midwest	45	40
Guey, Sam, 2203 Wentworth Ave.	Carrier-Air Comfort	17	15
Harrison Restaurant, 601 S. Wabash Ave.	F-M-Wen. & Cr.	23	20
Helen's Restaurant, 3959 W. Lawrence Ave.	Ilg-Hanson Bros.	10.5	10
Helsing Restaurant, 116 S. Dearborn St.	York-West. & Camp.	5.5	5
Helsing Restaurant, 105 W. Jackson.	York-Schmidt	5.5	5
Helsing Restaurant, 164 N. State St.	York-West. & Camp.	18	15
Heralds Restaurant, 1556 W. 79th St.	Merch. & Ev.-Hilger	5	0
Hitching Post, The, 1342 E. 53rd St.	G-E-Menys. Johnson	12	10
Hoe-Sai-Gai Restaurant, 75 W. Randolph St.	Reliomatic-Reliable	30	20
Holohan Restaurant, 171 W. Quincy St.	Airtemp-Gen. Appl.	6.5	6
Howell Restaurant, 4756 W. Madison St.	Reliomatic-Reliance	11	10
Huff, Jack, 28 N. LaSalle St.	Reliance-Blakeaire	15	15
Inglish Restaurant, 1105 Granville Ave.	York-West. & Camp.	11.5	10

(Continued on Page 17, Column 2)

## THE BUYER'S GUIDE



**TYPE 709**

This unit is intended only for household or the smallest sizes of commercial systems. Brass shell with soldered end caps. Size of shell: 1" O. D. x 5" long. Weight 6 oz.

Your Choice of Five Dehydrators at Same Price.

**HENRY VALVE CO.** 1001-19 N. SPAULDING AVE. CHICAGO, ILLINOIS

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## MILLS COMPRESSORS

for Commercial Use

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## GET A Gilmer V-BELT

FULL SIZE  
FULL WIDTH  
FULL THICKNESS

A GILMER BELT IS NEVER SKIMPED  
L. H. GILMER CO., Tacony, Philadelphia  
"THE OLDEST FIRM OF RUBBER FABRIC BELT SPECIALISTS"



Will not turn over in the groove. Lasts longer—Runs quietly under pulsating compressor loads. Send for free catalog.

## Ranco COMPLETE LINE OF COMMERCIAL CONTROLS

BEVERAGE COOLERS . YES !  
DISPLAY CASES . . . . . YES !  
ICE CREAM CABINETS . YES •  
MILK COOLERS . . . . . YES !  
WATER COOLERS . . . . . YES !  
WALK-IN COOLERS . . YES •

SEND FOR BULLETIN  
FOR COMPLETE EXPORT INFORMATION, WRITE

**RANCO INC., COLUMBUS, OHIO, U.S.A.**



## 1937 Chicago Installations (Cont.)

(Continued from Page 16, Column 5)

Name and Address	Installation	Hp.	Tonnage
International Club, 140 E. Walton St.	Hilger-Excel.	9	7.5
Italian Village, 71 W. Monroe St.	Kelvinator-Witten.	11	10
Ivanhoe Restaurant, 3000 N. Clark St.	Airtemp-Gen. Appl.	3.25	3
Keller, Hans, 1578 Clybourn Ave.	Curtis-Nat'l Kor.	12	10
Kitty Davis, 241 S. Wabash Ave.	Frigidaire	10	10
Knoll Restaurant, 1443 E. Hyde Park.	Airtemp-Gen. Appl.	6.5	6
Kungsholm, 631 N. Rush St.	G-E-Adv. Heat.	22	20
Lakeside Cafe, 1117 Bryn Mawr Ave.	Reliable Refr.	11	10
Lakeview Restaurant, 1027 Argyle St.	Baker-U.S. Air	11.5	10
Lakeview Village, 3817 N. Broadway.	Airtemp-Gen. Appl.	6.5	6
LaSalle Cafeteria, 133 W. North Ave.	Frick-Midwest	10.75	10
LaSalle Hotel, LaSalle & Madison	Carrier-McDon. & Trunk	352.5	200
Marquis Restaurant, 1133 Lawrence Ave.	Reliomatic-Prentice	11.5	10
Marquis Restaurant, 109 W. North Ave.	Reliomatic-Haines	8.25	7.5
Marty's Grill, 936 Diversey	Airtemp-Gen. Appl.	6.5	6
Maryland Restaurant, 900 N. Rush St.	Frick-Midwest	22.25	20
Michael Reese Coffee, 2911 Ellis Ave.	Ilg-Adv. Heat	5	5
Mother's Restaurant, 6712 Stony Island Ave.	Airtemp-Gen. Appl.	3.25	3
1933 Grill, 18 S. Dearborn St.	G-E-Gen. Heat.	11.5	10
O'Connell's Restaurant, 105 W. Monroe St.	Western V.	23	20
O'Connell's Restaurant, 1112 Wilson Ave.	Airtemp-Gen. Appl.	6.5	6
Open Door Cafe, 100 E. Superior St.	Airtemp-Gen. Appl.	3.25	3
Orlando Cafe, 241 S. Wells St.	G-E-III. Heat.	9	7.5
Paris Inn, 2744 N. Clark St.	Airtemp	3.25	3
Pere Marquette Grill, 6258 S. Western Ave.	Reliance-Blakaire	10	10
Pixley & Ehlers, 205 S. Wabash Ave.	York-Harbula	10	10
Pixley & Ehlers, 501 W. Jackson Blvd.	Harbula	35	30
Pixley & Ehlers, 80 E. Randolph St.	Vilter	35	30
Red Dragon Lounge, 205 W. Randolph St.	Frigidaire-Kohlman	8.25	7.5
Richard's Restaurant, 409 S. Wabash Ave.	G-E-Heat Sys.	9.5	7.5
Rienzi Grill, 116 S. Clark St.	Lipman-Gen. Ref.	12	10
Rose Bowl, The, 865 N. Rush St.	Frick-Midwest	11	10
S & D Grill, 1200 N. State St.	Reliance-Blakaire	8.25	7.5
Sherman's, Ed., Famous Door, 2809 Broadway	Lipman-Gen. Ref.	17	15
Solick's Restaurant, 4207 W. Madison St.	Frigidaire-Kohlman	36	30
Teakwood Tea Room, 33 E. Madison St.	Vilter-West-Vent.	16.5	15
Thompson's Restaurant, 600 N. Michigan.	Lipman-Gen. Ref.	19	15
Thompson's Restaurant, 1600 N. Clark St.	Lipman-Gen. Ref.	18	15
Thornbury Hall, 34 S. Clark St.	Airtemp-Gen. Appl.	6.5	6
Tinkham, W. B., 333 N. Austin Ave.	Airtemp-Gen. Appl.	3.5	3
Torch Club, 900 N. State St.	Frick-Midwest	6	5
Town Pump, 6350 N. Western Ave.	Frigidaire-Baldwin	10	10
Triangle Restaurant, 307 S. Clark St.	Airtemp-Gen. Appl.	9	9
Triangle Restaurant, 194 W. Randolph St.	Frick-Midwest	33	30
Valencia Restaurant, 829 Irving Park Blvd.	Airtemp-Gen. Appl.	3.5	3
Valentine Restaurant, 142 W. Van Buren St.	Lipman-Kaiser	23	20
Wagtails Waffle Shop, 1205 Loyola Ave.	Carrier-Air Comfort	34	30
White Grill, 4755 W. 63rd St.	U. S. Air-Cond.	1	0
Wicker Park Inn, 1958 W. North Ave.	Frick-Midwest	16	15
Wilshire Tea Room, 1122 Wilson.	Reliable	23	20
Woolworth, F. W. Co., 16 N. Michigan Ave.	York-West. & Camp.	28	25
Y.M.C.A. Hotel, 826 S. Wabash Ave.	York-West. & Camp.	23	20
Zephyr Restaurant, 139 S. Wabash Ave.	West-Kroeschell	33	30

## Stores, Candy

Andes Candies, 5960 Irving Park Blvd.	Excel-Peerless	5.25	5
Andes Candies, 4100 W. Madison St.	Airtemp-Gen. Appl.	6.5	6
Andes Candies, 5641 Belmont Ave.	Frigidaire-Kohlman	3.25	3
Cunag, John, 1505 E. 53rd St.	Airtemp-Gen. Appl.	3.5	3
Stevens, Mrs., Candies, 68 W. Washington	Airtemp-Gen. Appl.	3.25	3
Stevens Candies, 946 E. 63rd St.	Frigidaire	3.25	3
Washington, Martha, 210 S. Michigan Ave.	Airtemp-Gen. Appl.	3.25	3

## Stores, Clothing, Department

Baskins Clothing, 131 S. State St.	York-West. & Camp.	47	40
Benson & Rixon, 230 S. State St.	Carrier	80	70
Bond Clothing, 65 W. Madison St.	Frick-Midwest	35	35
Cotton, Jen, 1635 E. 55th St.	Airtemp-Gen. Appl.	3.25	3
Crawford Dept., 2509 Devon Ave.	York-West. & Camp.	23	20
Gassman Bros., 3010 E. 92nd St.	York-West. & Camp.	85	70
Gordon's Credit Clothing, 6433 S. Halsted.	Carrier Comf.	22	20
Hirsch Clothing Co., 3217 Lincoln St.	York-West. & Camp.	8	7.5
Miller Dress Shop, 57 E. Randolph St.	Norge-Hydrair	2.25	2
Miller-Wohl, 6426 S. Halsted St.	York-West. & Camp.	17	15
Mogel, Mary, 15 E. Washington St.	Carrier-C.E.	0.75	0.75
Neumode Hosiery, 80 W. Washington St.	Frigidaire	3.25	3
Palmer Dress Shop, 80 E. Jackson Blvd.	West-Kroeschell	25	25
Red Robin Hosiery, 4031 W. Madison St.	Curtis-Nat'l-Kore.	25	20
Sally Frocks, 6328 S. Halsted St.	Frick-Midwest	10.5	10
Sally Frocks, 27 N. State St.	Frick-Midwest	44.25	40
Smith Clothes, L. C., 6357 S. Halsted St.	Frigidaire	3	3
Town & Country Shop, 850 N. Michigan Ave.	Reli-Blakaire	8.5	7.5

## Stores, Drug

Hartman Bros., 9863 S. Ewing Ave.	Merch. & Ev.-Hilger	12	10
Lowell Drug Co., 1937 Howard St.	Airtemp-Gen. Appl.	3.25	3
Marigold Drug Co., 3800 Broadway	York-West. & Camp.	7.5	7.5
Mason Drug Co., 1558 W. 95th St.	Reliance-Blakaire	5	5
Northwestern Pharmacy, 1576 Milwaukee.	Airtemp-Gen. Appl.	3.25	3
Portes Drug Store, 5601 W. Madison St.	Airtemp-Gen. Appl.	3.25	3
Stineway Drug, 1337 S. 57th St.	Carrier-Air Comfort	11.5	10
Stineway Drug, 6859 S. Halsted St.	Excel	8.5	7.5
Stineway Drug, 1562 W. 79th St.	York-West. & Camp.	8.5	7.5
Stineway Drug, 1740 E. 55th St.	Carrier-Air Comfort	17	15
Victor, 2001 W. Howard St.	Airtemp-Gen. Appl.	6.5	6
Walgreen Drug, 2401 Devon Ave.	Baker-Burge	11.5	10
Walgreen Drug, 2400 W. Madison.	Baker-Keystone	9	7.5
Walgreen Drug, 7058 South Shore Dr.	Baker-Keystone	17	15
Walgreen Drug, 4800 W. Madison St.	Baker-Keystone	7.75	7.5
Walgreen Drug, 3181 N. Broadway.	Airtemp-Gen. Appl.	6.5	6
Walgreen Drug, 6259 S. Kedzie Ave.	Baker-Burge	10.5	10
Walgreen Drug, 4776 Lincoln Ave.	Baker-Burge	10.5	10
Walgreen Drug, 7059 Jeffery Ave.	Baker-Burge	8.5	7.5
Walgreen Drug, 6658 Stony Island.	Frig.-Gal. & Spec.	8	7.5
Walgreen Drug, 7000 N. Clark St.	Baker-Burge	12	10

## Stores, Food

Dressel Brothers, 3254 S. Wallace St.	Mills Scheuwer	6	5
Green's Bakery, 9026 Commercial Ave.	Excel-Hilger	13	10
Heinemann's Bakeries, 3233 Broadway	Lipman-Gen. Ref.	11.5	10
Schlusser Bakery, 2445 Devon Ave.	Carrier-Air Comfort	5.75	5

(Concluded on Page 18, Column 4)

## Ways Of Increasing Cooling Capacity Of Steam Jet Systems

(Continued from Page 16, Column 3)

are required for these schemes of meeting load character differences, but it is believed that the economy of high dewpoint operation with steam jet equipment and the ability to maintain desired conditions exactly are factors which may well offset the increase in equipment size.

"The range of load character can be extended by permitting the maintained conditions to follow along the line of effective temperature. It must be emphasized that sensible reheat from a comparatively high dewpoint is required when the sensible heat constitutes less than about 63% of the total heat picked up and the desired conditions cannot be met by continuing to lower the dewpoint.

"The temperature to which the chilled water is cooled by flash evaporation is termed the flash tank temperature in explanation of performance characteristics of this equipment. In some machines, this temperature is held constant by thermostatic control. With such machines, which are designed to cool the circulating water between two fixed temperatures, it is necessary to vary the quantity of chilled water by-passed through the coils or washer to meet variations in load.

"Other machines may maintain a fairly constant water temperature on the discharge side of the coils or washers by permitting the flash tank temperature to vary, depressing it as required by increases in washer load. With such machines, the quantity of chilled water circulated is held constant, the required variation in refrigerating capacity being obtained by the variation of temperature.

## BOOST IN FLASH TANK

"Theory, confirmed by tests of equipment installed on consumer's premises, indicated that the capacity of the steam jet machine to produce refrigeration increased with increase in flash tank temperature.

"For example, a booster capacity of 20 tons was obtained when the flash tank temperature was 40° F., and when it was 50° F. a capacity of 32 tons was obtained. A little arithmetic will indicate readily why this result was obtained.

"The economy of high flash tank temperature operation is almost a straight line function of flash tank temperature. The steam consumption has been expressed as a fraction of the consumption at 40° F. flash tank temperature and it is to be noted that these fractions apply exactly only to the machine tested.

"However, except for variations in the design point, the fractions for other machines will follow the same characteristic curve. It is obvious that the rapid rate of increase of capacity or decrease in steam consumption with increase in flash tank temperature is a characteristic which should be borne in mind in the design of refrigeration for air conditioning.

## WHERE SAVINGS ACCRUE

"The fact that the capacity of a steam jet machine increases with increased flash tank temperature may be taken advantage of either to gain more capacity or to reduce steam consumption. This favorable consumption characteristic is not, of course, peculiar to steam jet compressors but has its parallel in the effect of suction temperature on the

capacity of mechanical compressors. "In the steam jet system, however, the flash tank introduces a very high thermal storage which makes it practicable to control the refrigerating machine directly, with little chance of hunting, in meeting load changes such as occur in air-conditioning work.

"Physically, the method of controlling the output of the machine is very simple. Usually, the capacity of the machine is divided among several boosters, one or more of which are turned on and off manually or automatically in accordance with the demand. The normal installation corresponds to a multiple installation of compressors having constant speed characteristics.

"If the thermostat operating the supply valves to the boosters is the dewpoint thermostat, then the steam jet machine will operate only a sufficient time to maintain a flash tank temperature enough below the dewpoint to meet the load. As the load increases, the dewpoint will tend to

rise, but will be restored by the lowering of the flash tank temperature caused by the operation of additional boosters.

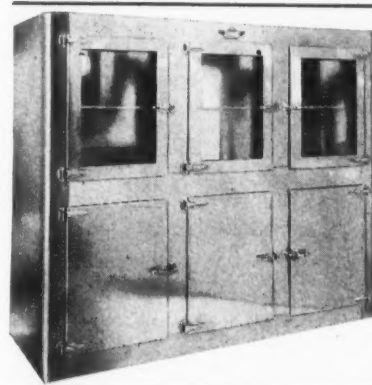
"In this manner, with a fixed dewpoint, the flash tank temperature will always be as high as the load permits and the machine will be operating on the point of greatest economy from the standpoint of this characteristic.

"If the greatest possible economy of operating energy is to be realized, not only must the steam jet machine be controlled by the dewpoint directly but the dewpoint itself should be maintained as high as possible.

"It has been shown that because a steam jet refrigeration machine operates as a constant volume low head pump and because the volume of 1 lb. of water vapor decreases rapidly at the saturation temperature or pressure rises without material change in latent heat per pound, it is possible, by raising the saturation or flash tank temperature, to reduce substantially the steam consumption.

(Concluded on Page 18, Column 1)

## THE BUYER'S GUIDE



## New As Tomorrow

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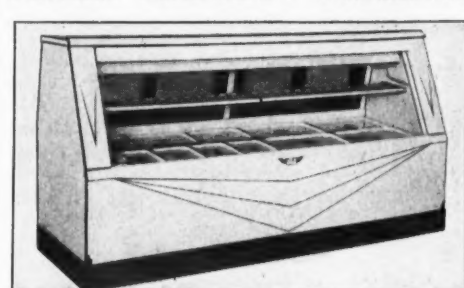
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**THE** Ace Hard Rubber "Loxit" units (doors, rails, jambs) are the last word in modern display refrigeration door equipment. They not only improve the appearance of your cabinets but the service obtained. Eight out-standing engineering features have won

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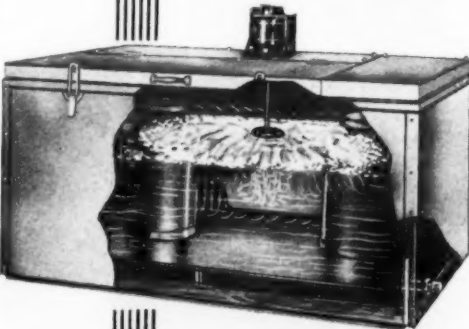
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## COLD-WHIRL

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Wilson COLD-WHIRL Coolers provide a system for fast and uniform cooling of two milkings daily . . . night's and morning's . . . in a conventional type cabinet (a conventional type cabinet is one that does not provide an automatic neck-high water level as provided in our Zero-Flow Coolers).

The COLD-WHIRL Circulator, an exclusive device, sprays icy-cold water around the necks of the cans with a low water level (night's milk) . . . providing fast cooling for the very top inch of milk. When cans of the second milking have been immersed, the circulator agitates the water around the hot cans of milk with a high water level, providing fast and uniform cooling of the second milking.

The COLD-WHIRL cabinet, because of its many exclusive Wilson features of construction, assures the lowest heat leakage, greatest rigidity, and longest life. The standard Verti-Coil cooling coil is used in all COLD-WHIRL Coolers.

The COLD-WHIRL Cooler is moderately priced.

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Good territories are still available. Write for dealer proposition.

**WILSON CABINET CORPORATION, Smyrna, Del.**



## Basic Control Requirements For Steam Jet System As Outlined By Mumford

(Concluded from Page 17, Column 5)  
tion per ton of refrigeration produced.

"It has been indicated that the thermal storage introduced into the cycle by the supply of chilled water in the flash tank makes it practicable to control the flash tank temperature directly from the dewpoint thermostat in a simple manner. The inescapable conclusion is, therefore, that operating energy economy will be greatly improved by operating at the highest possible flash tank temperature."

In explanation of the saving inherent in operating the booster at the lowest possible steam pressure, Mr. Mumford said:

"If the pressure of the steam supplied to an operating booster on a steam jet machine is continuously

reduced by throttling from the maximum, a point is reached where the jet breaks and refrigeration ceases.

"A jet will break at pressures which vary with the condenser vacuum, the break pressure decreasing as the condenser vacuum rises. A jet will be stable as long as the steam supply pressure is above the break pressure.

"Because the steam consumption of a jet is proportional to the initial pressure, it is obvious that to operate at any pressure materially above the break point is wasteful of steam, and any control that will maintain the supply pressure only slightly above the break point as the condenser vacuum changes will greatly reduce the energy required over that at constant pressure.

"It is quite feasible to consider

the completely automatic operation of a steam jet machine and following this procedure through step by step seems a desirable approach to the basic control requirements.

"1. Push button starts the cooling water circuit including pumps, towers, and fans.

"2. Pump circuit is interlocked with motor valve on secondary ejectors.

"3. Condensate pump is started by a float switch, the pump output being controlled by a level controller.

"4. When the condenser vacuum rises to the proper value, a vacuum switch energizes the main booster control circuit and starts the chilled water pump. The machine should now be on the line.

"5. When the chilled water temperature reaches a predetermined setting, a thermostat throws in the throttling control.

### SAFETY THERMOSTAT

"The only safety device required practically is one thermostat. It throws the machine off the line should any failure take place which results in loss of load. This consists of a thermostat in the chilled water line set to shut the steam off at an abnormal chilled water temperature.

"The steam pressure should be throttled in accordance with the condensing pressure so that the tonnage may be delivered at the lowest steam pressure compatible with the jet stability.

"One apparatus developed to accomplish this consists of a valve in the steam line controlled by an air-operated regulator which automatically balances the pressure differential existing between the condenser and the flash tank against steam pressure, so that every condenser vacuum condition calls for and maintains a proper operating steam pressure.

"A modification of this principle has been successfully employed to control condensing water on purchased water supply. In this application, the steam pressure is held constant and the condensing water is throttled to maintain a constant differential between flash tank and condenser.

### FOR PEAK LOADS

"It is obvious that two courses are available to the designer of the steam jet in providing maximum economy and ability to handle peak load. It may be shown that certain relationships exist which make it possible to do this without material sacrifice of economy.

"1. The stability of geometrically similar jets is proportional to the relationship between the propelling steam and the flashed steam.

"2. The stability of the same jet is proportional to the steam pressure.

"3. The flow of steam is proportional in the same jet, to the steam pressure.

"Two courses are open. In most installations the designer of the machine has considered only constant pressure operation. Consequently, the boosters are designed to give the least steam consumption at the stated condensing water temperature. This has meant designing for the maximum available steam pressure. The result is, and has been, unfortunate. The machines do not perform at peak wet bulbs without assistance.

"On the other hand, if the designer initially gave the machine stability, safety in excess of that to be encountered under peak load, and then provided for throttling of the steam pressure to that required by the actual characteristics of the steam jet, the machine would perform at peak wet bulbs."

## 1937 Chicago Installations (Cont.)

(Concluded from Page 17, Column 2)

Name and Address Installation Hp. Tonnage

### Stores, Fur

Blum's, Inc., 624 S. Michigan Ave.....	Reliance-Blakaire	11.25	7.5
Landau Fur Shop, 2715 Milwaukee Ave....	Norge-Sampson	0.5	0.5
Reiger Co., George, 190 N. State St....	Airtemp-Gen. Appl.	0.5	0.5
Richman, Adolph, 209 S. State St.....	Carrier-Air Comfort	5.5	5
Rosenthal, M. H., 18-28 S. Michigan Ave...	Ilg-Dougherty	8	8
Uhlemann Fur Co., 7 W. Madison St.....	Carrier-Air Comfort	5	5

### Stores, Shoe

Berland Shoe Store, 16 S. State St.....	Frick-Midwest	26	20
Burt's Shoe, 4034 W. Monroe St.....	York-West. & Camp.	5	5
Burt's Shoe, 4034 W. Madison St.....	Carrier-Air Comfort	9	7.5
Burt's Shoe, 3222 Lincoln.....	Carrier-Air Comfort	16.5	15
Cutler Shoe Co., 4746 Sheridan Rd.....	Airtemp-Gen. Appl.	6.5	6
Cutler Shoe Co., 2801 Milwaukee Ave....	Airtemp-Gen. Appl.	6.5	6
Cutler Shoe Co., 6408 S. Halsted St....	Airtemp-Gen. Appl.	6.5	6
Cutler Shoe Co., 11233 S. Michigan Ave....	Airtemp-Gen. Appl.	3.25	3
Cutler Shoe Co., 4043 W. Madison St....	Airtemp-Gen. Appl.	6.5	6
Cutler Shoe Co., 2356 E. 71st St.....	Airtemp-Gen. Appl.	3.25	3
Dickerson Shoe, 76 E. Madison St.....	G-E-Adv. Heat.	5.5	5
Feltman & Curme, 3249 Lincoln St.....	Airtemp-Gen. Appl.	3.25	3
Feltman & Curme, 6359 S. Halsted St....	Airtemp-Gen. Appl.	3.25	3
Jarman Shoe Store, 20 N. Dearborn St....	Airtemp-Ald.	3.25	3
Kitty-Kelly Shoes, 112 S. State St.....	York-West. & Camp.	35.5	30
Maling Bros., 4035 W. Madison St.....	Curtis-Nat. Korect.	18	15
Maling Bros., 4720 Sheridan Rd.....	Frick-Midwest	10	10
Maling Bros., 2764 Milwaukee Ave.....	Frick-Midwest	23	20
Maling Bros., 3218 Lincoln.....	Frick-Midwest	15	15
Maling Bros., 843 E. 63rd St.....	Frick-Midwest	17	15
Maling Bros., 6320 S. Halsted.....	Frick-Midwest	23	20
McAn, Thom, 6317 S. Halsted.....	York-West. & Camp.	3	3
McAn, Thom, 312 S. State St.....	York-West. & Camp.	6	6
Newart Shoes, 6345 S. Halsted St.....	York-West. & Camp.	18	15
O'Connor & Goldberg, 835 E. 63rd St....	Carrier-Air Comfort	17	15
Stetson's Shoe, 144 S. Dearborn St.....	West-Kroeschell	33	25
Wise Shoe, 31 S. State St.....	York-Wendt & Crone	22	20

### Stores, Miscellaneous

Busch Kredit Jewelry, 6343 S. Halsted St.	Frigidaire	9	7.5
Cole & Young, 9144 S. Commercial Ave....	Reliance-Brunswick	9	7.5
Commonwealth Edison, 852 W. 63rd St....	General Electric	35	30
Dennison Bldg., 62 E. Randolph St....	Carrier-Air Comfort	57.5	50
Donalds Diamonds, 34 W. Washington St...	West-Kroeschell	3.5	3
Foremans Jewelry, 6303 S. Halsted St....	York-West. & Camp.	3.25	3
Ben Franklin Store, 436 E. 47th St....	Worth-Acme	17	15
Hollands Store, 6331 S. Halsted St.....	York-West. & Camp.	35	30
Kresge, S. S., 2774 Milwaukee Ave.....	Liberty Eng. & Mfg.	15	0
Kresge, S. S., 26 S. State St.....	Carrier (add'l)	20	0
Kresge, S. S., 10 S. State St.....	Carrier (add'l)	35	0
Litt Jewelry Co., 54 W. Washington St....	Frigidaire	3	3
Litt Jewelry Co., 220 S. State St.....	G-E-Adv. Heat.	18.5	15
Marks Jewelry, 218 S. State St.....	York-Wendt & Crone	9	7.5
Marks Jewelry, 6319 S. Halsted St.....	York-Wendt & Crone	12	10
Midwest Drapery Co., 6455 Sheridan Rd....	Norge-Sampson	3.5	3
Owen, Inc., W. C., 221 N. Bank Dr.....	Airtemp-Gen. Appl.	6.5	6
Peoples Gas Co., 846 W. 63rd St.....	Assembled	5	0
Pittsfield Bldg., 55 E. Washington St....	Kroeschell	91.75	75
Swartz Bros., 156 N. State St.....	Carrier-Air Comfort	8.25	7.5
University of Chicago, 63rd & Dorchester Ave.....	Carrier-Air Comfort	10	10

### Studios

Koopman-Robinson-Newman, 231 S. Green	Airtemp-M. & H.	3.25	3
Stafford, Geo., 3422 Fullerton Ave.....	Airtemp-Gen. Appl.	3.25	3
Stafford, Geo., 3422 Fullerton Ave.....	Airtemp-Gen. Appl. (add'l)	3.5	3

### Theaters (Electric Refrigeration)

ABC Theater, Keating & Belmont.....	West-Kroeschell	50	50
Alvin, 1612 W. Chicago Ave.....	West-Kroeschell	25	25
Alvool, 2811 Diversey.....	Vilter	42	40
Brighton Theater, 4223 Archer Ave.....	Carbon-Witten.	90	90
Broadway Strand, 1641 Roosevelt Rd....	Wittenmeier	130	110
Bugg, 3940 N. Damen Ave.....	West-Kroeschell	50	50
California, 3434 W. 26th St.....	G-E-Murphy & Miller	50	50
City, 3031 Lincoln Ave.....	Reliance-Blakaire	47.5	40
Dearborn, 40 W. Division St.....	Carbon-Witten.	50	40
Devon-Maplewood Theater, 2520 Devon...	West-Kroeschell	75	75
Emmett Theater, 4338 S. Wentworth Ave...	G-E-Baldwin	20	20
Englewood, 726 W. 63rd St.....	West-Kroeschell	75	75
Esquire, 60 E. Oak St.....	West-Kroeschell	95	80
Haymarket Theater, 722 W. Madison St...	Vilter	70	60
Iris Theater, 5747 W. Chicago Ave.....	West-Kroeschell	65	60
Jackson Park, 6701-29 Stony Island.....	Ice-Murphy & Miller	10	0
Joy Theater, 1611 W. Roosevelt Rd.....	Carbon-Witten.	65	50
Julian Theater, 918 W. Belmont Ave.....	Carbon-Witten.	45	40
Linden, 743 W. 63rd St.....	West-Kroeschell	57.5	50
Metro, 3308 Lawrence Ave.....	West-Kroeschell	50	50
Midwest Theater, 3536 Archer Ave.....	Carbon-Witten.	100	100
New Strand, 2111 W. Division St.....	G-E-Murphy & Miller	42.5	40
Normal, 458 W. 119th St.....	West-Kroeschell	50	50
Park Manor, 323 E. 69th St.....	Kaiser	8	0
Peoples Theater, 1620 W. 47th St.....	Carbon-Witten.	130	130
Playhouse, 410 S. Michigan Ave.....	Wittenmeier	40	40
Radio Theater, 5035 S. Halsted St.....	Carrier-Air Comfort	30	30
Rex, 6848 S. Racine Ave.....	G-E-Baldwin	20	20
Rhodes, 532 E. 79th St.....	G-E-Kilander	80	80
Roscoe Theater, 2042 Roscoe St.....	Carrier-Air Comfort	37.5	30
Sonotone, 64 E. Van Buren St.....	Frigidaire-Galk Sp.	20	20
Symphony, 4923 W. Chicago Ave.....	G-E-Cal. & Speck	90	90
Times Theater, 4847 Milwaukee Ave.....	G-E-Heat Systems	60	60
White Place, 1609 S. Kedzie Ave.....	Ice-Murphy & Miller	10	0
Woodlawn Theater, 3031 Lincoln Ave.....	Reliance-Blakaire	35	0

Total..... 12,572.50 10,310.75

## THE BUYER'S GUIDE

# NEW

# Percival

# STREAMLINER!



### DISTRIBUTORS WANTED!

Write for details of Profit-making franchise. Complete PERCIVAL line meets every requirement of the modern food store.

Modern styling... Beautiful design... Outstanding construction... Economical operation! TOMORROW'S case, presented TODAY! Get the jump on other distributors by selling this modern marvel of electrical refrigeration. Its NEW style and NEW features give you exclusive selling advantages! NEW PERCIVAL FINANCE PLAN HELPS YOU SELL.

**C. L. PERCIVAL COMPANY**  
DES MOINES . . . . . IOWA  
51 YEARS OF SERVICE 1886-1937

## DOUBLE PROFITS

*Selling Sherer's*

1938 CASE AND COOLER HEADLINERS

### The Sherer Franchise Offers:

- ★ COMPLETE LINE OF CASES, COOLERS AND BOXES.
- ★ NEW EQUIPMENT constantly under development, opening new fields for compressor sales.
- ★ LAYOUT DEPARTMENT—layouts for food store modernization programs without obligation.
- ★ ADVERTISING—Sherer Equipment advertised by mail and in leading trade publications.

Equipment and Compressor Sales go together. Sell both on one contract.

Write for catalog and franchise details, mentioning territory desired.

**SHERER-GILLET CO. MARSHALL MICHIGAN**  
Manufacturers of Refrigerated Display and Storage Equipment



# PELCO

Buyers ARE YOUR SALESMEN



Operators of taverns, restaurants, roadhouses, resorts, hotels—wherever bottled beverages and food are sold—become YOUR salesmen the minute they buy a PELCO.

The DOUBLE UTILITY feature (the beverage cooling compartment where FLOATING ICE is made AUTOMATICALLY, as needed, plus the efficient dry-cold compartment), the revolutionary performance, the rich appearance make fast friends for PELCO.

GET the facts on PELCO now . . . Address Desk A-28

MANUFACTURED BY Refrigerator Division

**PORTABLE ELEVATOR MFG. CO.**

Sold in Canada by UNIVERSAL COOLER CO. OF CANADA, LTD., BRANTFORD, ONTARIO BLOOMINGTON ILLINOIS, U. S. A.



### Fairbanks-Morse Moves General Offices

CHICAGO — General offices of Fairbanks, Morse & Co. have been moved from 900 S. Wabash Ave. to the modernized building at 100 S. Michigan Ave. here.

First five floors of the building are occupied by executive, sales, and departmental offices. In the display room on the first floor are shown some of the company's products, including household appliances, automatic coal burners and air conditioners, and electrical machinery.

### CLASSIFIED ADVERTISING

RATES: Fifty words or less in 6-point light-face type only, one insertion, \$2.00, additional words four cents each. Three insertions \$5.00, additional words ten cents each.

PAYMENT in advance is required for advertising in this column.

REPLIES to advertisements with Box No. should be addressed to Air Conditioning & Refrigeration News, 5229 Cass Ave., Detroit, Mich.

#### POSITIONS AVAILABLE

DISTRICT REPRESENTATIVE wanted for New England territory by manufacturer of most complete line of refrigeration coils, air conditioning and heating surface—liberal commission basis. Box 1022, Air Conditioning & Refrigeration News.

#### POSITIONS WANTED

HAVING COMPLETED seven years as an employer, I honestly believe I can now be a valuable employee. Seven years as commercial refrigeration salesman and manufacturer's representative with large firm; also seven years in my own business selling, servicing, installing refrigeration and air conditioning. Best of references. Thirty-eight years old, five feet eleven inches tall, weigh one hundred ninety pounds, not in debt, happy and ready for work. Box 1018, Air Conditioning & Refrigeration News.

AIR CONDITIONING Engineer widely experienced in comfort systems for office buildings, theaters, stores, residences, also industrial central station and unitary work. Seven years' training in active survey, design, installation supervision and sales with leading manufacturer, commencing with company's student course 1930. Associate member ASHVE. Interested in position with consulting engineer or manufacturer. Box 1020, Air Conditioning & Refrigeration News.

EMPLOYED at present as service manager in southern metropolitan dealership. Would like to change. Was with one of leading air conditioning and refrigeration factory branches for ten years. Traveled southern states six years as service instructor and supervising erecting and servicing air conditioning. Box 1021, Air Conditioning & Refrigeration News.

#### REPAIR SERVICE

CONTROLS REPAIRED. You profit by our ten years' experience, trained personnel, and precision equipment. Each control accurately calibrated and re-finished. Perfect work, prompt service, reliable guarantee. If it contains a bellows, Hallectric can repair it. Try Warrenol for stuck compressors. Samples available. HALELECTRIC LABORATORY, 1793 Lakeview Road, Cleveland, Ohio.

DOMESTIC CONTROLS repaired. Ranco pencil types \$1.75. General Electric, Cutler-Hammer, Tag, Penn, Ranco box types \$2.00. Bishop Babcock, Majestic, Penn magnetic types \$2.50. All calibrated to factory specifications. We pay return postage. UNITED SPEEDOMETER REPAIR COMPANY, 436 West 57th Street, New York City.

#### PATENT FOR SALE

FOR SALE—Basic U. S. patent on unique hydride float multiple system—self-defrosting at freezing temperatures—requires no service and has no service valves, filters or driers—the only moving part is the refrigerant. Uses standard motor and compressor. Needs development and testing under field conditions. Box 1023, Air Conditioning & Refrigeration News.

#### FRANCHISES AVAILABLE

COMPLETE LINE of refrigerator display cases, walk-in coolers, and refrigerators for meat markets, grocers, restaurants, etc. Sell with Ehrlich line of compressors, or with any other line of machines. Attractive discounts, also liberal financing arrangements to help sell. 69 years in business. Write for full information and catalog. EHRlich REFRIGERATOR MFG. CO., St. Joseph, Mo.

#### PATENTS

HAVE YOUR patent work done by a specialist. I have had more than 25 years' experience in refrigeration engineering. Prompt searches and reports. Reasonable fees. H. R. VAN DEVENTER (ASRE), Patent Attorney, 342 Madison Avenue, New York City.

#### MISCELLANEOUS

I WOULD like to buy some used mail order courses on air conditioning and refrigeration. They must be of the newer type correspondence course complete and no pages missing, as I want the complete course in good condition. State price & year of course. Reply immediately. Box 1019, Air Conditioning & Refrigeration News.

## QUESTIONS

### Jobbers & Parts Makers 2 Different Groups

No. 3172 (Manufacturer, California)—"Will you kindly advise at your very earliest convenience, the address of the general office of the Manufacturers Jobbers Association?"

Answer: The manufacturers of refrigeration parts and supplies and the jobbers have separate, though closely connected, associations. They are the Refrigeration Supplies and Parts Manufacturers' Association, 111 W. Washington St., Chicago, Ill., with Richard M. McClure as executive secretary; and the National Refrigeration Supply Jobbers' Association, located at the same address.

### Equipment For Drying a Room

No. 3173 (Manufacturer, Pennsylvania)—"Can you give us the names and addresses of manufacturers who manufacture dehydrating equipment? We are looking for equipment to dehydrate a room to be used for glazing display cases."

Answer: The Despatch Oven Co., 622 Ninth St., S.E., Minneapolis, Minn., manufactures dehydrating ovens and may be able to supply the desired equipment.

### Service Recorder For Checking Running Time

No. 3174 (Refrigeration Service Firm, California)—"Back in 1930 I was employed as a service manager for the refrigeration division of the Detroit Majestic Products Corp., located at 101 Jefferson St., Detroit. At that time we sold to a number of our dealers an electrical instrument that recorded the actual running time of an electric refrigerator on a waxed chart that was locked into the cover of said electrical instrument."

"If my memory serves me correct the instrument was known as a Service Recorder manufactured by the Service Recorder Corp. of Cleveland, Ohio."

"I am anxious to obtain one of the instruments, in fact, several for the use of my service men as I found it one of the most helpful service analyzers in my business. I have inquired at several of the wholesale houses here on the coast but have been unable to find anyone who had ever heard of such an instrument."

"I would appreciate it greatly if you have any knowledge of the company if you would forward this information to them."

Answer: We have a letter from the Service Recorder Co., 468 Hanna building, Cleveland, which states:

"Answering yours in regard to an electrical instrument that records the actual running time of electric refrigerators on a waxed chart."

"We have made such an instrument and right at the present time are in the process of slowly easing out of that field. However, we enclose photostat of our printed matter on the subject and would say for the coming year we would probably be able to supply orders."

### Source Of 'Xylene'

No. 3175 (Distributor, Czechoslovakia)—"In your issue of Nov. 17, 1937, there is published an article dealing with the application of Xylene or C<sub>6</sub>H<sub>6</sub>/CH<sub>3</sub>/2."

"Please let us know the names and addresses of firms producing this material, or their representatives in Europe in order that we may approach them in the matter."

Answer: Xylene is manufactured by Merck & Co., Inc., Rahway, N. J.

### Makers Of Equipment For Household Model

No. 3176 (Dealer, Pennsylvania)—"One of our friends who works for an industrial firm in Greensburg has an inquiry from one of his customers who would like to have some names and addresses of manufacturers of electric refrigeration equipment only, less the cabinet for domestic use."

"Therefore, please send us a list of manufacturers of above described equipment."

Answer: We have been trying to collect complete lists of manufacturers of the equipment you ask for. It was originally thought that you meant manufacturers of condensers, compressors, and evaporators, but we are now wondering if you do not also

want manufacturers of motors, controls, valves, etc.

A listing of this type would take a good deal of time. You can obtain such a listing in a printed and very accurate form in the 1938 REFRIGERATION AND AIR CONDITIONING DIRECTORY, No. D-1. This is the Buyer's Guide Section of the Directory and includes classified listings of all known manufacturers of refrigeration equipment. This book sells for \$1.00 per copy.

### Steel Lockers For Country Storage Plants

No. 3177 (Manufacturer, Illinois)—"Can you furnish us with a list of concerns building steel lockers or compartments, as used in connection with cold storage freezing plants?"

"We have come in contact with several cold storage warehouses who have these compartments for rent to people who wish to use them for storage of game, meat or vegetables."

"Compartments are made up of a small drawer or locker, measuring about 20 inches long x 15 inches wide, and 10 inches high."

"We are not interested in the manufacturer of the refrigerator equipment, but are interested in the concerns who make the steel compartments and would be prospects for lockers. Each compartment is individually locked."

Answer: Two companies which are specializing in building steel lockers are:

All-Steel Equipment Co., Inc.  
555 Griffith Ave., Aurora, Ill.  
Knickerbocker Stamping Co.  
Parkersburg, W. Va.

### Hot Water From Power Oil Burner

No. 3178 (Dealer, New York)—"We are enclosing our check for a subscription to REFRIGERATION NEWS. Can you put us in touch with some company that makes a domestic hot water heater operated by a power oil burner other than Delco or Timkin?"

Answer: Domestic hot water heaters operated by a power oil burner are manufactured by the following:

Century Oil Burner Co., Chicago, Ill.  
Gar Wood Industries  
7924 Riopelle St., Detroit, Mich.  
Williams Oil-O-Matic Co.  
Bloomington, Ill.

### Sales Figures

No. 3179 (Manufacturer, Wisconsin)—"Do you have available 1936 or 1937 sales figures by manufacturers of electric refrigerators free of charge?"

"Or can you tell us without specific unit sales how the various refrigerator companies stand in relationship of sales to each other?"

Answer: Figures on household electric refrigerator sales for 1937 and several previous years were published on page 1 of the Jan. 5 issue of AIR CONDITIONING & REFRIGERATION NEWS.

Single copies of AIR CONDITIONING & REFRIGERATION NEWS are available at a cost of 20 cents each.

### Ice Cream Freezer Unit For Household Cabinets

No. 3180 (Manufacturer, Illinois)—"Kindly send us the names and addresses of manufacturers from whom we could buy for resale attachments or enclosure for inside of refrigerator or outside which will freeze ice cream in an ordinary home electrical refrigerator through use of attachment."

"Understand, we do not mean the freezing or ice cube trays as they will only make an ice—the ice cream needs agitation and mixing during the freezing process. There was a firm in Baltimore, Md., who made somewhat of a wheel attachment a couple years ago for freezing ice cream, but we cannot recall the manufacturer's name. It is an ice cream freezer operated by the power and freezing system of the electric refrigerator."

Answer: Manufacturers of ice cream freezers for electric refrigerators are as follows:

Easy-Way Co.  
432 W. Marquette Rd., Chicago, Ill.  
Hamilton-Beach Mfg. Co., Racine, Wis.

### Bottle Dispensing Units

No. 3181 (Jobber, Indiana)—"We have had a number of inquiries of late for the names of other manufacturers than Mills Novelty Co. who make bottle dispensing units, either ice or refrigerated."

"Do you have such a list of manufacturers, and if so, we would greatly appreciate your sending this to us."

Answer: We suggest that you contact the following for information on bottle cooling and dispensing units: Brunswick-Balke-Collender Co.  
623 S. Wabash Ave., Chicago, Ill.

Portable Elevator Mfg. Co.  
Bloomington, Ill.

S. & S. Products Co., Lima, Ohio  
S. & S. Vending Machine Co.  
670 Lincoln Ave., San Jose, Calif.  
Undabar Cooler Corp.  
220 N. Fourth St., St. Louis, Mo.

For complete lists of all manufacturers of refrigeration and air-conditioning equipment, parts, and supplies, you can refer to the 1938 REFRIGERATION AND AIR CONDITIONING DIRECTORY, published by Business News Publishing Co., 5229 Cass Ave., Detroit, Mich., publishers of AIR CONDITIONING & REFRIGERATION NEWS. This 252-page Directory is now available at the cost of \$1.00 per copy.

The arrangement, classification of products, and the selection of names in this Directory has been made entirely from the viewpoint of the average buyer in the refrigeration and air-conditioning business. The book is an entirely new compilation from start to finish. The products are classified under natural groupings, and there is a complete index of all classified products in the back.



REFRIGERATION AND  
AIR CONDITIONING  
**PARTS**  
PROMPT SERVICE  
Write for our latest catalog  
ON YOUR LETTERHEAD...  
BRANCHES: NEW YORK, CLEVELAND AND  
ST. LOUIS

THE HARRY ALTER CO., 1728 SO. MICHIGAN AVE., CHICAGO, ILL.



Model No. 500-A

**"CHIEFTAIN"**  
QUALITY-BUILT  
COMPRESSORS AND  
CONDENSING UNITS

All bearings diamond bored. Positive lubrication of parts by newly developed process plus forced feed lubrication in all models.

Sizes 1/8, 1/4, 1/2, 3/4, 1 H.P.

Write for prices

**TECUMSEH PRODUCTS CO.**  
Tecumseh, Mich.

**OFFICES**

New York  
480 Lexington Ave.

Chicago  
Room 2258  
La Salle-Wacker  
Building

Detroit Export  
Department  
1002 Palms Bldg.

Los Angeles  
122 Mariposa St.

St. Louis  
577 Arcade Bldg.

**NEW SERVICE VALVE KIT FOR HERMETIC UNITS**

... for purging, charging and testing

THIS KIT contains a special valve with adapters and keys for use on hermetically sealed condensing units for purging, charging, testing, etc. It eliminates the need for having a number of different service valves for use with the various makes of such equipment.

Eight different adapters are supplied for attaching the service valve to the different units, and 5 keys are supplied which will fit the different charging plugs found on these units, these plugs generally having recesses of various sizes and shapes. Adapters have numbers stamped on them for easy identification and label inside box shows which adapter to use on each machine.

The valve kit can be used with the following hermetic units: Bohn methyl chloride and sulphur dioxide; Coldspot; Frigidaire; General Electric; Gibson; Grunow Majestic; Servel; Television; Trukold; U.S. Radio; Westinghouse large and small.

Operation of this valve is simple.

After removing sealing cap or plug and gasket from hermetic unit, the proper adapter is screwed into its place, the proper key is fitted to the charging plug, and the service valve is attached to the adapter. The unit is then ready for purging, charging or testing. Operated by ordinary 1/4" ratchet wrench.

The outfit, which in addition to the special valve includes 8 adapters, 5 keys and 4 gaskets, is furnished complete in a convenient, specially-fitted metal box.

No. 182-F  
Service Valve  
Kit for Hermetic Units  
Dealers Price  
\$8.00 ea. Net

ORDER FROM YOUR JOBBER

Imperial Brass Mfg. Co., 565 S. Racine Ave., Chicago, Ill.

**IMPERIAL** Air Conditioning and Refrigeration Products

VALVES • FITTINGS • TOOLS • CHARGING LINES • FLOATS • STRAINERS • DEHYDRATORS



**Seepage-Proof FITTINGS**

**"Built Right to Stay Tight"**

Every style and size of forged flared tube fitting for the refrigeration industry is available from standard stock at Commonwealth.

Thousands of semi-standard patterns enable us to quickly furnish any desired variation in pipe and tube ends.

Special fittings made to order.

Commonwealth fittings are correctly designed, carefully machined, and tube seats are protected in shipping.

25 years of service to the industry.

**COMMONWEALTH BRASS CORPORATION**  
Commonwealth at Grand Trunk R. R.  
DETROIT, MICH.